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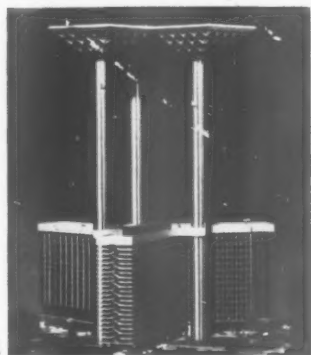
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MARGINALIA

Research and Fantasy

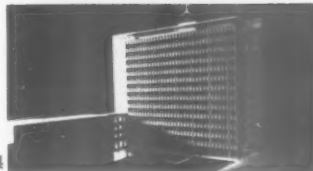
The various projects sponsored by the Pilkington Glass Age Development Committee provide, more or less annually, an opportunity for an architect or group to go outside the limitations and routines of current practice, and exercise some controlled fantasy on the problems of the myth-hallowed year 2000. The 1957 project, designed by James Dartford, a helicopter station called Skyport One, on a site over St. George's Circus, Lambeth, runs true to the pattern these fantasies have shown so far, a mixture of solid research and not-too-draconic imaginings, resulting in a fairly routine star-plan building with three contiguous hexagonal landing platforms umbrella'd above it on cylindrical, lift-and-service-



cramped shafts, five-hundred feet high. 1. The research behind this is backed by a massive bibliography of all the accepted, and most of the controversial, authorities on future heliports, but making no reference to at least two sources that have clearly, if subconsciously, been drawn upon—Buckminster Fuller, for the tetra-grid structures and their air-hoist delivery, and Werner von Braun, whose manned satellite projects must have triggered the idea of assembling the platforms up in space.

Tall Slabs in Europe

From the bewildering array of European projects for giant office blocks—some no more than *ballons d'essai*, others surprisingly scheduled for immediate construction—two main types emerge as most likely to be of architectural interest. There are those where the architects have the space and opportunity to create



a complete free-standing composition, as with the Palazzo Regione Siciliana project, 3, by Attilio and Emilio la Padula, an elegant sculptural disposition of parts, but not likely to be realized in any conceivable future. And there are those like the new Mercedes office block at Unterturkheim, which the Bavarian architect Rolf Gutbier has had to fit between two existing parts of the Mercedes factory, and spanning a street, 4. At first sight Gutbier's cramped site might appear a less happy one than the Padulas', but his opportunity and his solution are to produce a closer urban texture, not an exploded one, a naturally business-like scene, not an unnaturally monumental one.

Almshouses in Danger

The conflict between the letter and the spirit of byelaws is at its clearest and cruellest when local councils want to demolish 'sub-standard' almshouses against the wishes of the people who live in them, the Trustees of the almshouses and the Ministry of Housing's Historic Buildings division. Here are two cases pending:—

1. Countess of Derby's Almshouses, Hereford, Middlesex; built 1636, Grade II*, a product of the same munificence that makes the inside of Hereford church into one of the most rewarding in the Home Counties. The Trustees wish to improve the property; the Uxbridge Borough Council issued a closing order which was quashed by the County Court—ostensibly because the premises were unfit. The Trustees drew up a scheme to meet the Council requirements, asked for an improvement grant—and were refused! Now the Middlesex County Council have applied for the almshouses to be removed from the Ministry's Statutory list, have been refused permission and have, therefore, given two months' notice of demolition. That is to say—'We're going to demolish these because of x and y and z. If you improve x, y and z we are going to demolish anyway because we feel like it: and if you've spent money in producing a scheme, well it's hard luck, old boy.'

The real reason is apparently to aid projected road widening—and on a straight hill slope taking only local



Almshouses in danger: 5, left, at Hereford, Middlesex; 6, right, at Hereford.

traffic, which is absurd. This was only put forward at the very last minute, and the tactics used by the Council leave a nasty taste in the mouth. West Middlesex is hardly a rural idyll; the Council ought to fight for every bit of attractive building that can be preserved there.

2. Aubrey Almshouses, Berrington Street, Hereford, built 1630; half-timbered cottages, Grade II. Here the Trustees proposed an improvement scheme which was refused on three grounds—i, low ceiling heights; ii, two outer doors at the front and two staircases (!); and iii, the familiar zoning argument: the almshouses are surrounded by warehouses and a bakery. In fact, the people who live there—who are the ones that matter—find the ceiling heights cosy and the varied traffic outside interesting. As for clause ii, one can only point out that so has Selfridge's, and where does that get us? The Trustees revised their scheme to get rid of the offending second staircase and submitted it; the Council insisted that the houses were unfit and 'not capable at a reasonable expense of being rendered so fit'—an expense, incidentally, which the Trustees can in fact both meet and maintain—and issued a Closing Order which is at the moment being fought.

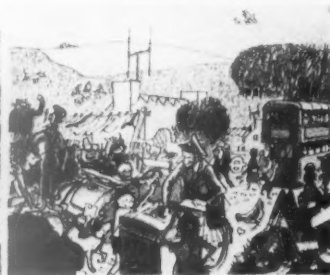
These two cases show a sorry state of affairs. In the first byelaws are being enforced to serve an overt purpose; in the second they are being enforced just for the hell of it, to satisfy a paper ruling; in both cases against the wishes of the inhabitants and of the reports of outside consultants. Byelaws were created to prevent abuses, not as instruments of power for its own sake; on this evidence local government is using the areas it governs as a punch-ball just to show how strong it is.

Counter-Attack

The December issue of the REVIEW, which is now available as a book at 12s. 6d., has attracted as much attention as did *Outrage*. *Punch* gave it six pages and produced a *Counter-Attack*—or the manual the local authorities would put out to follow *Counter-Attack*, in order to whitewash each other and everything else in sight. It combined this with a skit on REVIEW typography and fell between two stools in doing so; for the satire had to be blunted because the article had a serious job to do as well. The drawings (Norman Mansbridge delt.) are delightful and we reproduce the *Counter-Attack*'s two extra stages to add on to *Counter-Attack*'s Visual A.B.C. 7 and 8.

The *Cambridge Review* has transformed itself under this year's editor, Andor Gomme, into a lively and hard-hitting magazine especially on architecture and planning. *Counter-Attack* was reviewed in a leader which went straight to the fundamental human point at issue, implicit behind our creation of 'arcadia' as a category of landscape based on illusion. Is arcadia a legitimate category? The REVIEW believes that it is—that the urge to play at being in the country is as deep rooted and as justifiable as the urge to commune with nature in the raw, or to want to be at the heart of a city. It is an individual and partly sophisticated impulse, which is why it fails as an attempted solution for mass housing; and, in fact, the solutions for mass housing that we were proposing were very different. The REVIEW also explicitly stated that arcadia was not another

7 and 8, two extra stages added by *Punch* to our Visual A.B.C.: inserting the population...



... and restoring the 'amenities.'



name for a town's outskirts, but a distinct and separate area, sited where it can best fit into the landscape.

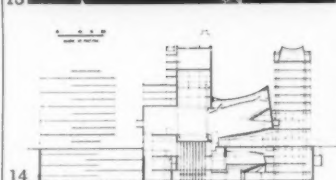
If you live in arcadia without recognizing the extent to which it is an illusion your life will become a ferocious farce. Equally, those who live in what purports to be arcadia without really wanting to—as we believe most council estate dwellers do, regretting the lost community spirit and urbanity around the houses they left behind—are laying up a store of neuroses for themselves.

In short, arcadia as a distinct type of landscape, yes (and yes at least as far back as Pope's villa at Twickenham, possibly as far as the Elizabethan hunting lodges); arcadia as a solution for mass rehousing, no, partly because it isn't a mass affair, and partly because the bulk of building and the bulk of people will make the illusion impossible.

Welcome notice of another sort was given by the Kent County Council which issued a circular calling attention to *Counter-Attack* and the publicity given therein to the efforts of the Deal Council to tidy up the Borough, and urging similar action by other Kent towns. This is an admirable acceptance by a local authority of the book in the spirit in which it was published, and the REVIEW would be happy to give details of any action which Kent boroughs take in answer to this circular.

The Architecture of Bread

To raise funds for the relief of refugee children, 17 leading Swedish architects recently took part in a competition for the design of a ginger-bread house, working with their wives to produce models to the scale of one-twentieth. Curiously enough, the only notable excursion into the Hansel-and-Gretel country was Sven Markelius's random-Ronchamp affair, 9, and many of the designs were—in an elastic sense of the word—conventional, e.g. Bengt Lindroos's patio-house with plastic dome, 10, and Bengt Gate's 'dymaxion' structure with the furniture shown in diagrammatic form on the floor, 11. But it was Ralph Erskine, who is not a Swede, who struck the most completely liberated note of confectionery fancy, 12, with a Gaudiesque cross between a mast-church and a Polynesian hut.



Municipal Theatre in Buenos Aires.

Typical of the massive capital investment in cultural buildings proceeding in most Latin American metropolises, the General San Martin Theatre, by Alvarez and Ruiz, in Buenos Aires, concentrates a number of cultural activities in a single complex building. The entry from the Avenida Corrientes is under a tower-block, 13, whose upper storeys contain a Museum of Modern Art, with a small cinema on the roof. Behind this, as is seen in the cross-section, 14, is the auditorium of the main theatre, for 1,150 persons, with an elaborately equipped stage. Below, at sub-basement level, is an experimental theatre of smaller size, and amphitheatre form. The second phase of construction will include a school of dramatic art, seen diagrammatically at the left of 14.

CORRESPONDENCE

Subtypographica

To the Editors,

SIRS,—I have read with strong approval and whole-hearted support your two issues, *Outrage* and *Counter-Attack*. I endorse with enthusiasm the principles on which your theses

are based and wish you every success in forwarding them.

I believe, however, that the war against fussiness, unnecessary embellishment and aesthetic barbarism should not be confined solely to our towns and countryside. Their effects are noticeable everywhere, and nowhere more so than in the typography and layout employed in your publications.

The decaying layouts, pock-marked print and anonymous photographs with which you seek to advance your worthy cause combine to form a squalid mess which opens and hurts my eyes.

I recognize the mess. The question is—are you prepared to do something about it? If so, I commend to you, to quote further from your blurbs, the alliance of a sure eye to common sense in ridding your readers of the two-dimensional subtopianism to be found in such publications as *Counter-Attack*.

Here is the ammunition: will you finish the job?

Yours, etc.,

W. D. GARNER.

North Holmwood,
Surrey.

Intelligence

The P & O Company has ordered a new 45,000-ton passenger liner for the UK/Australian trade. The public rooms are being designed and decorated by a team consisting of Sir Hugh Casson and Messrs. McInnes, Gardner and partners.

The result of the Sydney Opera House competition is as follows: first prize, Joern Utzon, Denmark. Second prize, a group of American architects: J. Marzella, L. Loschetter, W. Cunningham, W. Weissman, M. Brecher, R. Geddes and G. Qualls. Third prize, Boissevain & Osmond, London.

The University of London has appointed Professor J. L. Martin to prepare a comprehensive outline plan for the future development of the University Precinct in Bloomsbury.

Mr. George Williams, who has been in charge of the COID's Street Furniture Panel, has been appointed Design Officer to the British Transport Commission. He will administer the Design Panel which has been set up to advise the BTC on the appearance of new equipment.

An *American Architecture* by Frank Lloyd Wright, reviewed in AR, Oct., 1956, page 264, has been published in this country by The Architectural Press for Horizon Press, New York, price 84s.

The fourth open air sculpture exhibition to be arranged by the LCC will be held at Holland Park, Kensington, this year from the end of May until September. The theme of the 1957 exhibition will be the contrast between British sculpture of the mid-nineteenth and mid-twentieth centuries.

Architect of the Factory at Wallsend-on-Tyne (pages 233-235). **Stanley Milburn** was born in Sunderland and apprenticed to his father's and uncle's firm Wm. & T. R. Milburn. With his brother he became a partner in 1922. Designed the North East Coast Exhibition, Newcastle, Research and Design Building for Chas. Parsons, Newcastle, Poole Sanatorium, Middlesbrough and hospital developments in the Channel Islands and Northern Ireland. Awarded in 1955 the RIBA Bronze



Medal for Architecture in the area of the NAA. An early success in the International Competition for Cairo Hospital led to many years of specialization in hospital work.

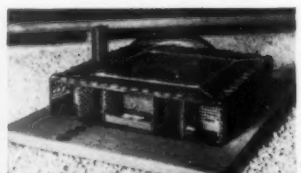
Considers that Europe (and this country in particular) has been slow to appreciate and encourage contemporary design and that much more rapid development would have taken place if Corbusier's designs had been awarded the first premiums in the competitions for the League of Nations Building at Geneva and the Palace of the Soviets in Moscow and if the Smithsons' design for Coventry Cathedral had been built. Strongly advocates that more freedom of expression in design in both public and private offices should be given to young architects and better facilities arranged for them to set up in private practice.

Sketching in the Highlands of Scotland is main recreation.

ACKNOWLEDGMENTS

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the architecture of bread: four designs from the recent Swedish competition. 9, Sven Markelius. 10, Bengt Lindroos. 11, Bengt Gate. 12, Ralph Erskine.

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THE ARCHITECTURAL REVIEW



This Month's Cover shows, head on and full size, an electric bowl fire recently designed by Kenneth Browne for use in the offices of the Architectural Review and gives some idea of the actual glow produced by the original. Intended for wall-mounting above eye level it is designed to give the same sort of freedom of location as has now become customary in the distribution of light fittings, and something of the same freedom in aiming its rays in a variety of directions. A note and further illustrations of this possibly-revolutionary design are on page 282.

221 **Marginalia**

222 **Correspondence**

224 **Frontispiece**

225 **Street Lettering by Nicolette Gray**
Beyond the fulfilment of its immediate purpose, which implies the ability to be seen, as well as the ability to be read, the street name-plate should be an ornament to its locality—as is the case with the almost vernacular traditions of Bath and Venice, with their marked local character. Though these two towns are special cases, Mrs. Gray nevertheless emphasizes that character is one of the qualities to be most earnestly sought in street lettering, and that character comes not only from the type-face, but also from the manner of presenting it, the size, material, background, colour effect obtained. The scope of this particular subject has been greatly extended recently by the growing tendency to name large blocks of offices and flats, for which a different character, and perhaps a bolder one, is required.

230 **Factory at Hemel Hempstead: Designers, Ove Arup and Partners**

Directing J. M. Richards
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Volume 124 Number 723 April 1957

234 **Factory at Wallsend-on-Tyne: Architects, S. W. Milburn and Partners**

237 **Plymouth Barbican by Gordon Cullen**
The planners have been moralizing to us for years about neighbourhood centres. The Barbican at Plymouth, overlooking Sutton Harbour, is just such a neighbourhood centre, alive and vigorous in its own way—even to the extent of having its own Regatta, independent of Plymouth's—yet the local planning authorities seem set on eviscerating it and largely destroying both its special character and physical fabric. Gordon Cullen's report on the Barbican describes its human and architectural character, outlines the pressures and inertias that threaten it, their relation to the overall town plan, to the possible future of Plymouth as a living provincial metropolis, and to those who wish to do something constructive about the Barbican's future—as the Barbican, and not as a quarter of a square mile of sterile sub-topia. The Barbican calls for radical and original thinking on a fairly sweeping scale, on the scale of a giant *Unité d'Habitation* and not as a statistical mess of condemned properties, broken byelaws and impending purchase orders, as a fundamentally sound structure that simply needs bringing up to date technically, and deserves that kind of renovation, rather than out of hand demolition, because it is that irreplaceable work of man, a live neighbourhood centre.

243 **The One and the Few by Reyner Banham**
The world's view of two generations of Finnish architecture, and thus of the rise of modern architecture in Finland, has been focused on two dominant individuals, Eliel Saarinen and Alvar Aalto, at the expense of their contemporaries; the impression being that in each case, the One was superior to the Many. Mr. Banham suggests that there has never been a Many in Finland—the country is too small—and that the giant reputations of Saarinen and Aalto should be seen against a close background of the Few; so close in the case of Saarinen that he can hardly be called outstanding among contemporaries like Lindgren and Sonck, but in the case of Aalto, a background that has only become close since 1950. Before that time Aalto stood very much to the fore, a maker, not a follower of styles, leading the world at large away from the International style that his countrymen were accepting without question. The gradual comprehension and adoption by other Finns of Aalto's freedom, tough-mindedness and originality is the story of the rise of a truly Finnish contribution to the Modern Move-

ment, and the article is followed by an extended survey of the most recent buildings that have added power and authority to that contribution.

249 **Recent Building in Finland**

260 **Soane's Designs for a Triumphal Bridge by Dorothy Stroud**
Among the themes that most persistently exercised the imagination of Sir John Soane was that of a Triumphal Bridge. It was with such a design, inspired by the work of Sandby, Piranesi and Peyre, that Soane won the Royal Academy's Gold Medal, another version he submitted as a testimony to the Academy of Parma during his Italian Journey, and other variants of this splendid vision adorn the rest of his career. However, as Miss Stroud points out, the only near-realization of this dream of his youth was a small and utilitarian bridge over the river Wensum in Norwich.

263 **Current Architecture**

Miscellany

267 **Books**

268 **Exhibitions**

270 **History**

272 **Designer**

273 **Counter-Attack**

Skill

275 **Interiors: Directors' Dining Room in Leeds Architect, Derek Walker**

Tailor's Shops at Liverpool, Nottingham and Manchester Architects, Westwood, Sons and Harrison

280 **Design Review: Seating Fashions in Paris by Robert Browning**

Adjustable Electric Wall Fire by John Carr

282 **Techniques: External Pavings II by Robert Maguire**

288 **The Industry**

288 **Contractors**

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THE ARCHITECTURAL REVIEW

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FIVE SHILLINGS

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TERRACE

TRADITIONALLY URBANE STREET-NAMING FROM
CLASSICALLY URBANE CITIES: BLACK ON
WHITE FROM VENICE, 1; INCISED IN STONE FROM
BATH, EARLY, 4, LATE, 2, 3, REVIVED, 7; WHITE
ON BLACK FROM CHELTENHAM, 6. HAIRLINE OR
TRIANGULAR SERIFS, 4, 3, SUITABLE FOR DARK
ON LIGHT, WERE REPLACED BY SLAB-SERIFS,
5, WHERE THE COLOURS WERE REVERSED.

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MAGDALEN ROAD

Nicolette Gray

STREET LETTERING

Without doubt the first consideration in the designing of street lettering should be to insure that it fulfils its *purpose*; that it should be immediately seen by anyone seeking it, and being found should be immediately legible. But, since it is a necessary adjunct to every town street—and indeed most streets are insufficiently labelled—it is also of importance that it should be an ornament to its locality, a pleasure to the inhabitant as well as a convenience to strangers.

In order to examine the requirements and possibilities of this ubiquitous and therefore very important type of lettering I thought over those which I remembered seeing with pleasure, and the first quality which I came across was that of *uniformity* within a city or district. I associate with certain towns certain sorts of name plates, which in the pleasing cases (which are the ones which I remember) add something to the general character of the place, give it too a greater unity. The outstanding example is Bath, which can surely boast the best street lettering in Europe. Normally beautifully placed on the string course of each terrace, 4, it is carved in the stone of which the street is built, very deeply in the heavy strokes, creating rich shadows and contrasts, and painted. Its merit lies in its harmony with the architecture of the city, thereby enhancing one's pleasure in both arts; in its homogeneous style, increasing the unity of the city; and in the beauty and individuality of each example. As one walks about the city one can see not only the pleasure with which the masons carved each particular name but the changes in detail which mark successive generations from the late XVIIIth to early XIXth century—the lettering does not seem to be contemporary with the elder Wood's streets. One can compare the purity of style of Grove Street, 4, with the triangular serifs and flamboyance which

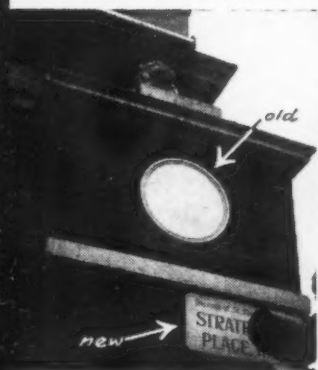
betray a later date in Quiet Street, 2, 3, and the last phase, when life has gone out of the tradition, in Railway Place. A praiseworthy attempt to revive it has recently been made by the children of the Art Secondary School who have been allowed to carve a number of new names, 7. The only comparable city lettering which I know is that of Venice, 1, it is neither so generous nor so individual, but the contrast of its painted black on white on the rich colour of Venetian walls is always pleasing, and reminds one that black and white are colours too, and that this is a positive element in street furnishing.

Clearly Bath and Venice are peculiar examples, being cities with a high degree of architectural unity; elsewhere there is often little with which lettering can hope to harmonize. There are, however, places where opportunities have been deliberately abandoned; in Bristol one may see the beautiful carved lettering in Portland Square covered over with a new label, 9. Would it not have been possible to have repainted the original Stratford Place, 8, instead of adding a new label with a total disregard for the pleasant little lodge? Such cases might surely override uniformity as a rigid principle. There is not even this excuse for the case of the Nash terraces of Regent's Park, for these

do not come within the standard Marylebone system, but are all labelled alike in a painted sans character; obviously an unsuitable letter for buildings in classical style, and here also dreary in itself. Yet a model for congruous lettering is provided on a scale which one would have thought hard to miss in Chester Terrace, 12.

To return to the ordinary city with its hotch-potch of styles, one needs, I think, a label which has its own character; and that is made not only by the type of letter used but by the design of the whole; its size, material, border or absence of border, colour effect. I particularly like the border, and the post, of Uffmoor Lane, 15, and the modest Ionic seems admirably suited.

8, Stratford Place off Oxford Street, London, W.11. 9, Bath. 10, 11, Cambridge. 12, Regent's Park, N.W.1. 13, 14, Louth, Lincolnshire.



Abandoned opportunities: 8, a new sign leaving the designed space meaningless. 9, new lettering obliterating beautiful old lettering. 10, letters with form but scarcely any substance replace 11, relief letters full of local character. 12, Regency lettering in Regent's Park; why not used for all the terraces? 13, standard utility lettering which could never be good, replaces 14, a good pattern for a small street.

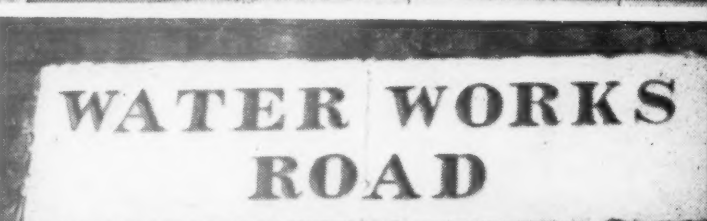


One sees a similar type of label in parts of Birmingham, also in Finchley (for one in Malmesbury v. AR, August, 1954). Colour is particularly important. It is, I should say, the primary fault of almost all modern labels that they lack colour, they seem designed on paper, *in vacuo*, as if they were not material in the same sense as the bricks and mortar to which they will be attached, they are afraid of substance and colour. As a type of letter Egyptians normally introduce a good deal of colour, but the examples I know at Liverpool and at Bristol (v. AR, June, 1954) and Exeter, though nice, are ill-spaced, crowded. More successful is the white letter on black to be seen in Cheltenham, 6; Indeed, I find a white letter almost always more attractive. How pretty it looks on painted stucco, 16; one sees the same sort of porcelain letters in Brighton, and Ionic examples in the city of London, which though they are too cramped in their frames (as are almost all these porcelain letters), and though many are damaged, are far the best of the miscellaneous labelling to be seen there. Very nice examples of metal labels with relief lettering painted white are those of Oxford, 17, using a charming unpretentious Roman. To sum up, compare these two examples from Cambridge. The virtue of the modern one, 10, lies entirely in the letter design, in this case it is good, but it is a norm to be seen all over the country, without personal character, and it is as near as it can be to being disembodied. 11, in contrast, is peculiar to Cambridge—I have never seen that N and U elsewhere, there is a curious L too—and it has entity, and body, and colour; it is part of the railings and of the stone curb, and of the city.

But there is a new type of street lettering which is appearing which offers far more interesting opportunities than the label, where modern designers are beginning to find all sorts of possibilities, the name lettering of blocks of flats or offices. Here the normal entity may be the housing authority; the LCC use a more or less standard tile lettering which is pleasant if uninteresting, though it is disappointing to see on one estate that the post-war is far less sensitive than the pre-war design, 30a. In some cases the entity is the estate, as at Pimlico, 24, where it is the style of the design and its repetition which is memorable, it has 'colour,' though the compressed Ionics lack emphasis and consequently rhythm in conjunction. The most

15, a pleasing type of letter suiting its background and post. 16, porcelain tiles; the colour of the bold white on black suits the stucco street. 17, characteristic Oxford sign: pleasant well-spaced relief Ionics. 18, a successful Egyptian; note the variation of stroke width relieving the weight. 19, Bath again, incised and painted. 20, represents the industrial when compared with Bath. 21, compare with 10; the shading and confined space compensate for the thin line. 22, a nice compressed Egyptian, to which the border adds considerably. 23, enchanting in Violet St., though impossible in Cornhill.

15, Birmingham. 16, near Charing Cross, London. 17, Oxford. 18, Louth. 19, Bath. 20, Sunderland. 21, Perivict-on-Tweed. 22, Ludborough, Yorks. 23, Sunderland.



GILBERT HOUSE



GATEWAY HOUSE

MONSANTO HOUSE

SHERBORNE HOUSE

TRESHAM



BLICK HOUSE

| | | |
|----|----|-----|
| 24 | 25 | 30 |
| 26 | | |
| 27 | | 30a |
| 28 | | 31 |
| 29 | | |

24, the whole makes a nice pattern. 25, quite good letters, but oppressed by the balcony shadow. 26, by night the light behind the letters makes a new and better pattern. 27, note the variation in stroke width.

28, good weight of letter, perhaps too large. 29, italic sans makes a good contrast to brickwork. 30, 30a, Ionics in tile beautifully placed on a blank wall. 31, early Victorian terrace naming: bold lettering running along the entablature and related to moulding and pilaster.

24, Pimlico housing, Westminster. 25, 26, Cannon Street, City of London. 27, Victoria Street, S.W.1. 28, Ebury Bridge, near Victoria Station. 29, Red Lion Square, W.C.1. 30, Bermondsey, S.E. 31, New Cross Road, S.E.

normal entity must, however, be the block itself and the main secondary consideration (that of purpose being primary) the relation between lettering and building. Monsanto House, 27, is an example of sophisticated classic design on a street front, Romans that one is pleased to see about. Gateway House, 26, is more interesting in that the letters are very deep in section which immediately puts them into relation with the architectural elements of the building; unfortunately this relationship does not seem to have been thought out and the letters look as if they had been stuck on as an afterthought. (Actually they look much better by night when the lighting inside the letters thrown against the wall behind creates a space round them.) Another example which suggests possibilities, though again itself unsuccessful, is Chetwynd House, in the City. I like the contrast between the flat sans, and the fluted background, and the wall, but the proportions are not happy. Less ambitious

but better resolved are Sherborne House, 28, Blick House, 30, very nicely placed on the blank end wall, though not sensitive in actual letter design, and Tresham, 29, perhaps most successful of all. I like the contrast of the smooth surface and softened edges of the plastic against the texture of the brick, the slope of the italic against its pattern of verticals and horizontals. The size, too, is right. And here returning to the consideration of purpose one notes how seldom this is the case. A few are too large, many are hard to find, and many new blocks seem to have neither name nor number. Finally, I suggest we might still learn a good deal from the named Victorian terraces, of which many still exist here and there, such as 31 in New Cross Road; their problem was simpler in that they were working in terms of a symmetrical architecture, and a homogeneous surface material, stucco; their merit is that they are normally designed lettering and architecture together.

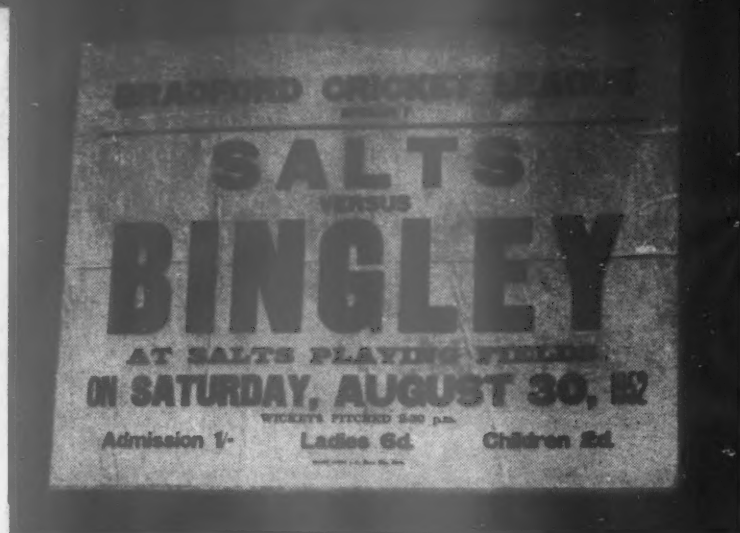
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PRICES REDUCED



24,25

TELEKINEMA

26

Besides the architectural typefaces discussed by Mrs. Gray in the foregoing article, there also exists a wide range of robust alternatives awaiting use where place and mood require; printers' wood-letter grotesques, new, 24, and old, 25; wide-setting Egyptians, Festival-proven, 26-29, 32; and Continental route-marking standards, crisp and characterful, from Spain, 30, and Italy, 31. These examples do not exhaust the possibilities, they simply suggest the width of choice available.

BUFF

27

drinking water

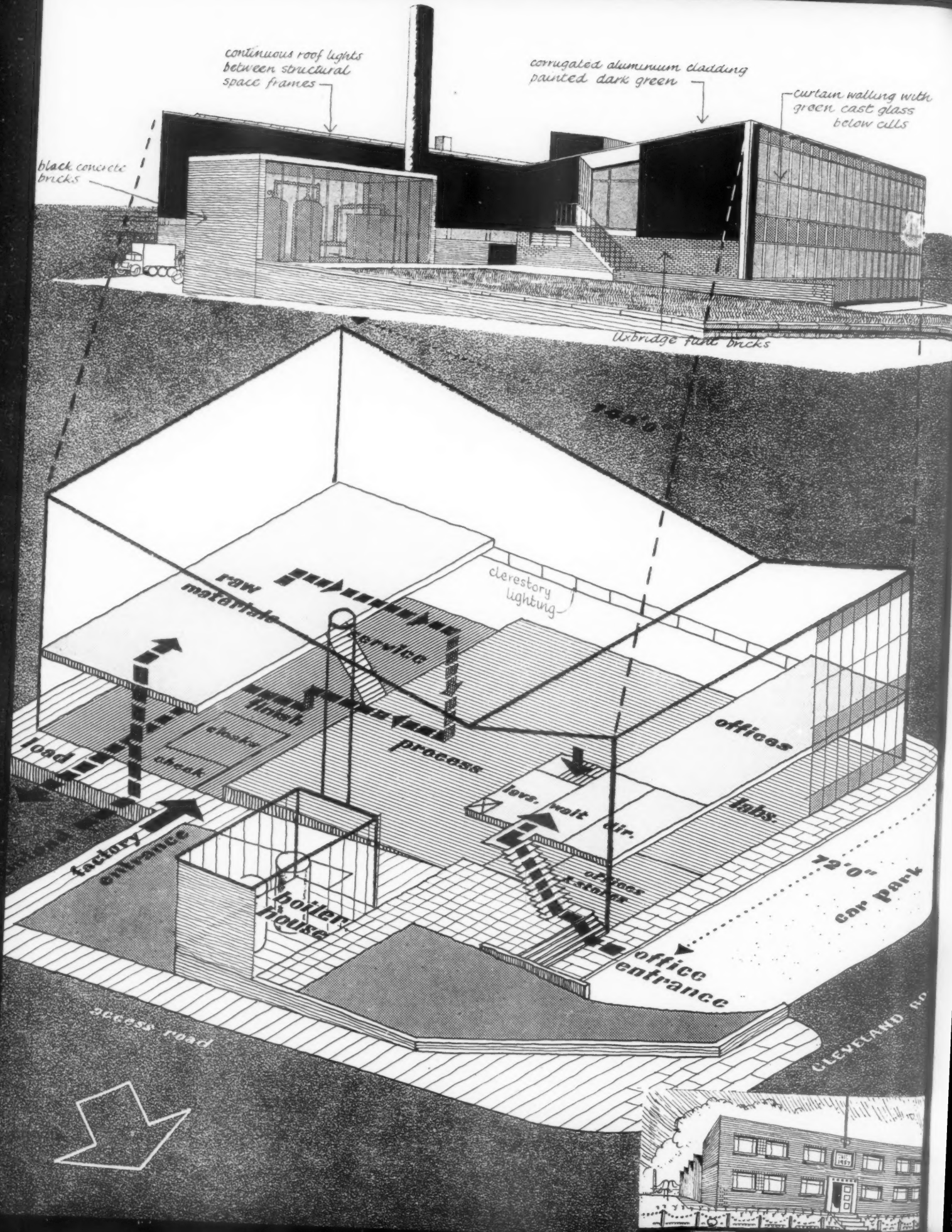
28

CAFÉ & BEER VAULT

29



30
31,32

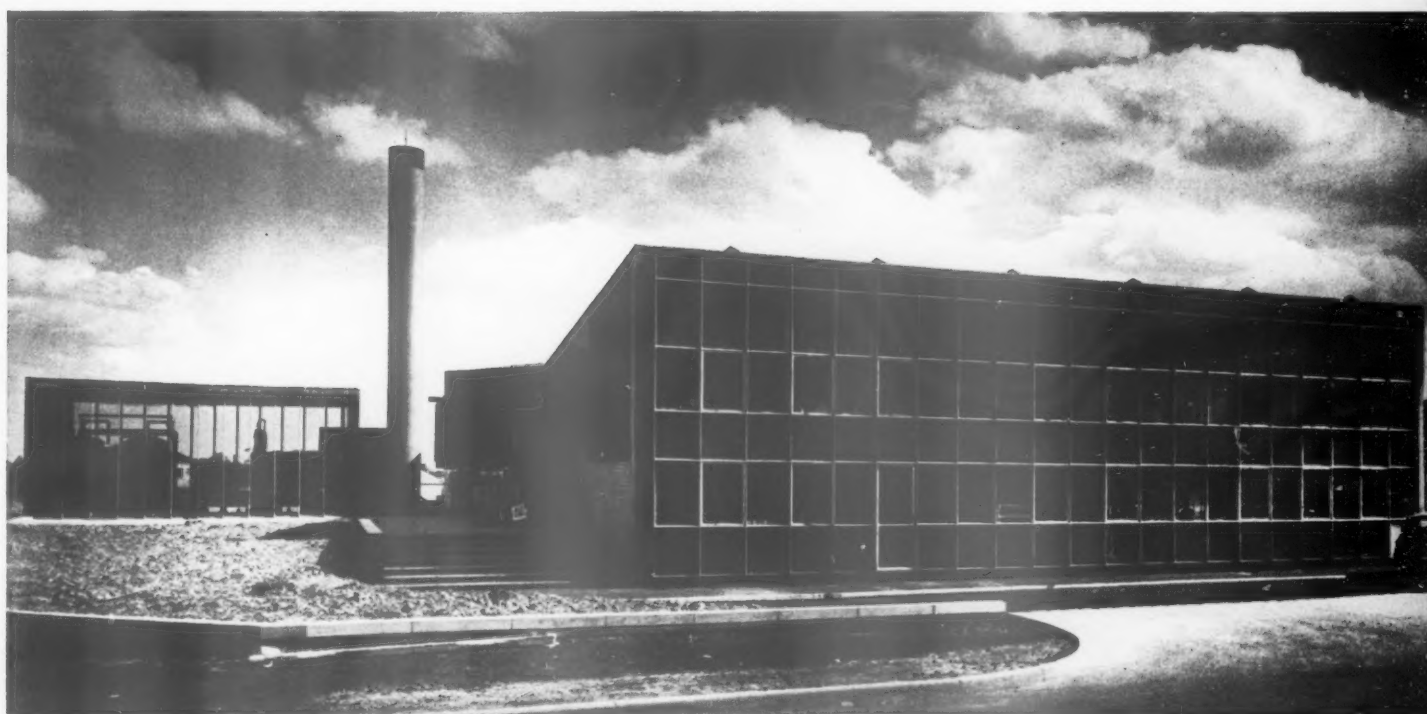


The building described below and drawn by Kenneth Brune could be a turning-point in re-establishing an industrial vernacular for the small factory in Britain. Here for the first time are genuinely modern and mass-produced industrial forms—curtain walls and aluminium sheeting—used without applied 'art' to give an elegant solution which comes directly from the functional needs. Ironically, this was only achieved in the teeth of New Town regulations which laid down that the road frontage should be a two-storey office block, as a screen, and that a particular facing brick be used on this front elevation and carried round to the sides. The architects overcame the two-storey screen by making the whole factory fit one butterfly-roofed unit, and overcame the rule about facing bricks by not having any brickwork at all. The usual result of truckling to the regulations is shown in the inset and can be seen ad nauseam in the New Towns themselves.

FACTORY AT HEMEL Hempstead

DESIGNERS OVE ARUP AND PARTNERS

assistant architects Philip Dowson and Francis Pym

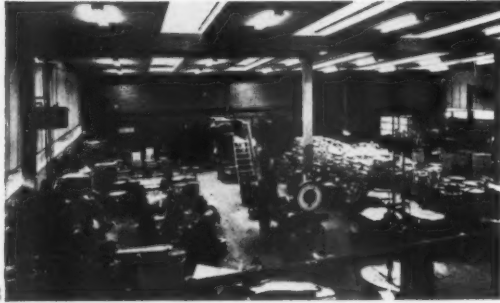


1, the road frontage (north); boiler-house on the left, offices above laboratories on the right.

This factory is on the New Town industrial estate and produces paints and concrete additives. There is 5-ft. fall from north to south, and consequently the process area in the centre of the block is at mezzanine level to the 2-storey south end (stores above, finished products below). An over-all flat roof would have been unnecessarily high over the process area; hence a butterfly roof was used. This also gives as much light as possible to the

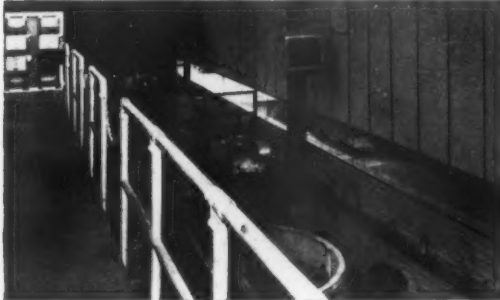
offices and laboratories—which faced north by request of the Development Corporation. Road access is from the north-east to a loading bay formed by continuing the lower floor level. Raw materials are unloaded by a jib crane through double doors into the storage on the upper floor. The building is r.c. framed with suspended floors of in-situ 12-in. thick continuous structural concrete slabs. Infilling between stanchions to form the external

FACTORY AT HEMEL HEMPSTEAD



2

2 and 3, two views of the raw materials store. 2 shows the process area with timber space-frame units spanning 35 ft. between the r.c. beams.



3


4 and 5, the boiler-house from the south; the loading bay in the foreground of 5 is an extension of the main floor slab.



4

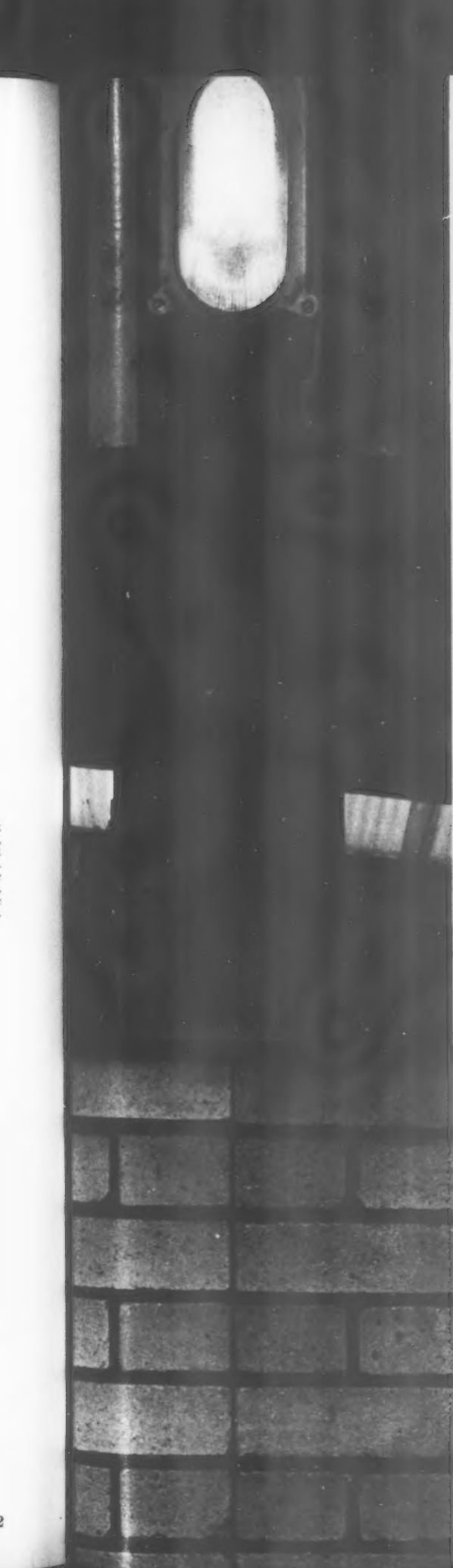
walls is Uxbridge flint bricks up to clerestory level. Above the clerestory the block is continuously clad on three sides with corrugated aluminium sheeting, painted dark green outside. The clerestory is glazed directly into the structure dispensing with window frames. The north front is entirely glass curtain walling in aluminium frame windows. The roof is a development of the Punt system with timber space-frame units spanning 35 ft. between beams. The frames are built up of light timber and steel sections fixed to $\frac{3}{4}$ in. plywood sheets. Rain water is drained off by a single gutter in the groove of the butterfly roof leading to a vertical duct, with the lavatories grouped around it on two floors.

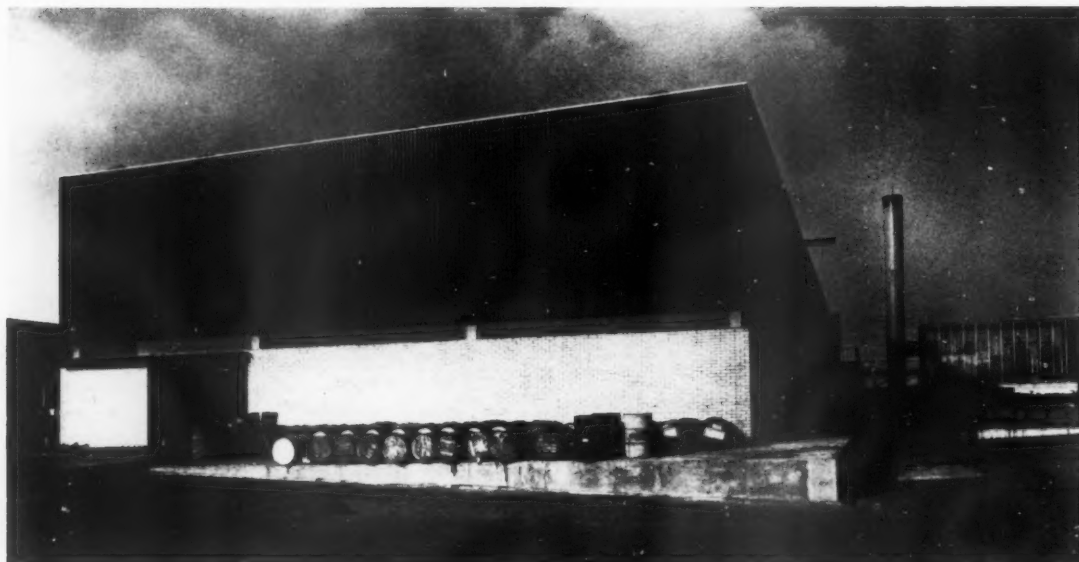
The boiler-house is a separate building consisting of an in-situ concrete slab on brick end walls and patent glazing side walls; the free-standing flue is constructed of in-situ r.c.

Opposite  three detail views. 6, left, close up of the external cladding at one of the stanchions, showing glass clerestory, with aluminium sheet above it and the flint facing bricks with expansion joint below. 7, above right, the double doors and jib crane used to deliver raw materials to the store. 8, below right, the staircase to the offices on the east side, with slate treads on an r.c. frame.



5





**FACTORY AT
HEMEL HEMPSTEAD**

8, two-storey south elevation: raw materials store above, finished products below; sliding doors to servicing bay on left.

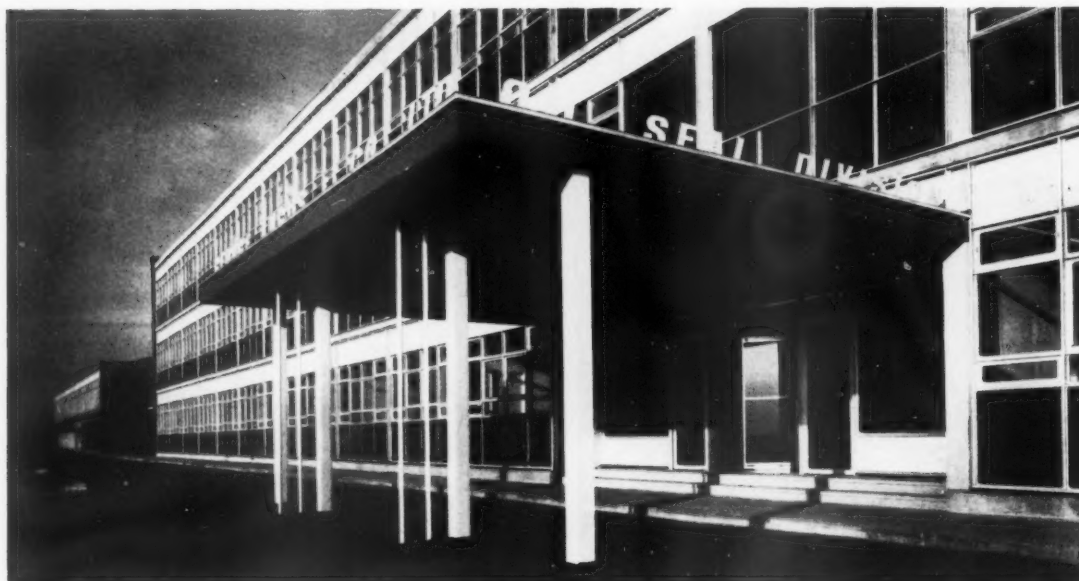
FACTORY AT WALLSEND-ON-TYNE

ARCHITECTS

assistant architects

S. W. MILBURN & PARTNERS

James Hall (-in-charge), Robert Hanson, Denis Wilkinson and George Pennie



1, canopy and entrance to office block.

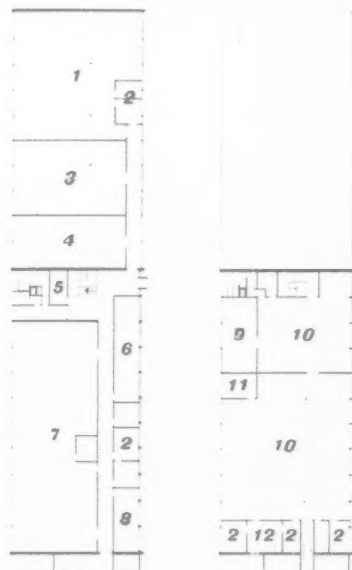
This factory is the oil seals division of George Angus & Co., on a 19-acre site beside the Newcastle-Tynemouth Coast Road north of Wallsend. The building line was fixed at 100 ft. back from the road, and all traffic access had to come from Middle Engine Lane on the west side: the factory was therefore planned on this side of the site allowing for 100 per cent eastwards and northwards

expansion. Canteen, office block and laboratories run parallel to the Coast Road and can be expanded sideways and upwards.

The factory, boiler-house, offices and laboratories are steel framed, the smaller ancillary blocks are load-bearing brickwork; the other main building—the canteen—is r.c. framed to save steel and to aid the building pro-

[Continued on page 236]

2, right, the entrance hall in the office block looking towards the pool behind the staircase. The enquiry desk and staircase risers are teak; the frame for the revolving door is cherry mahogany; and the walls are veneered in white oak.

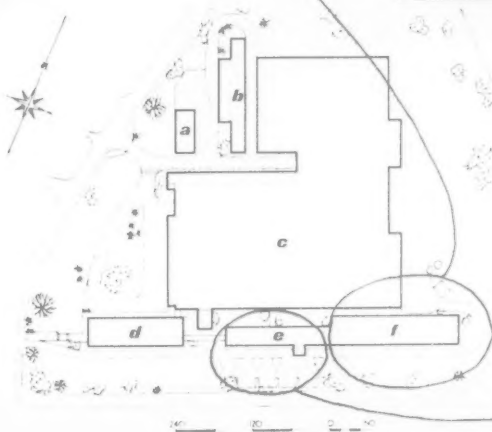


ground floor. scale: 1/80 in. = 1 ft.

laboratories

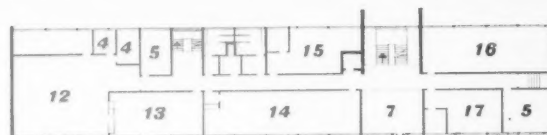
key

- 1, pilot plant.
- 2, offices.
- 3, plant development.
- 4, textile lab.
- 5, dark room.
- 6, drawing office.
- 7, engineering lab.
- 8, technical office.
- 9, mill room.
- 10, chemistry labs.
- 11, store.
- 12, library.



site plan

key. a, boiler house. b, chemical store, joiners' shop and garage. c, factory production area. d, canteen. e, offices. f, laboratories.

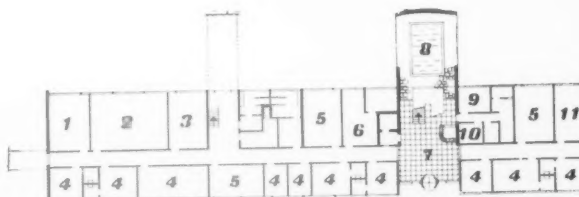


first floor

office block

key

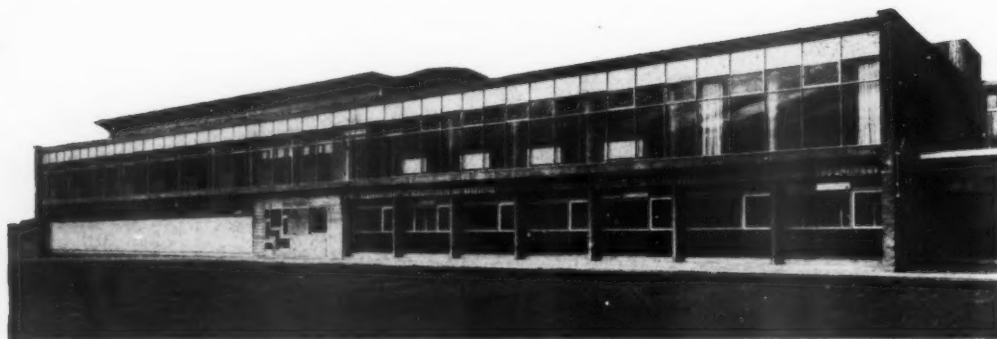
- 1, works typists.
- 2, methods.
- 3, stationery store.
- 4, administrative offices.
- 5, spare rooms.
- 6, buying and stores records.
- 7, entrance hall.
- 8, pool.
- 9, telephone exchange.
- 10, waiting room.
- 11, dead file store.
- 12, production control.
- 13, central records.
- 14, wages.
- 15, general office.
- 16, computers.
- 17, costing.



ground floor.

scale: 1/64 in. = 1 ft.

FACTORY AT WALLSEND-ON-TYNE



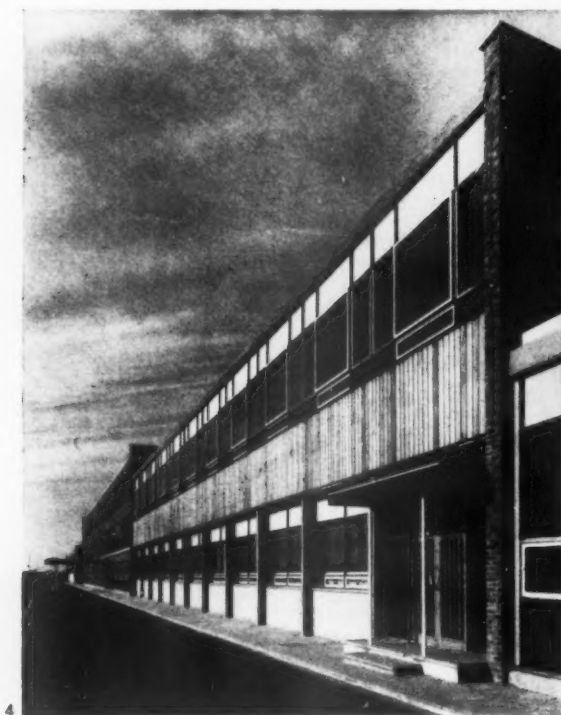
3, the canteen; with offices and a lecture theatre on the ground floor. The panel in the centre contains coloured glass set in rough-textured concrete, and lit from behind; this will be used as an advertising motif

[Continued from page 234]

gramme which was very tight*. The factory is laid out on a 60-ft. grid, planned so that each department can expand laterally independent of the others; the perimeter walls are aluminium cladding with an insulated backing and high level glazing; the roof has monitor lighting and corrugated aluminium decking. Factory services have in most cases been ducted in the floor, giving ready supply to any machine points necessary: the ducts can be lengthened as required for future extensions. Heating pipes run at high level and serve space heaters.

*An 18-month schedule was maintained by closest possible liaison between architects and contractors, and by careful planning by the contractors themselves (Messrs. Bovis Ltd.), who were working on a contract fee basis.

The offices and laboratories are clad with curtain walling set forward of the main structure. In the offices this is broken at 12-ft. intervals with cover boards of Mansonia hardwood; vertical services and rain-water pipes are housed between these and the main stanchions. On the south front aluminium curtain walling was used; on the north 12 ft. by 11 ft. prefabricated timber frames were purpose made when it became clear that sufficient aluminium curtain walling could not be delivered in time. The laboratories are clad with vertical red cedar boarding and timber framed prefabricated windows. Horizontal services are run through castellated beams and concealed in a false ceiling: vertical services are housed in two ducts designed to have continuous access.



4



5

4, the laboratory block; 5, the main staircase in the office block, from the rear



Gordon Cullen

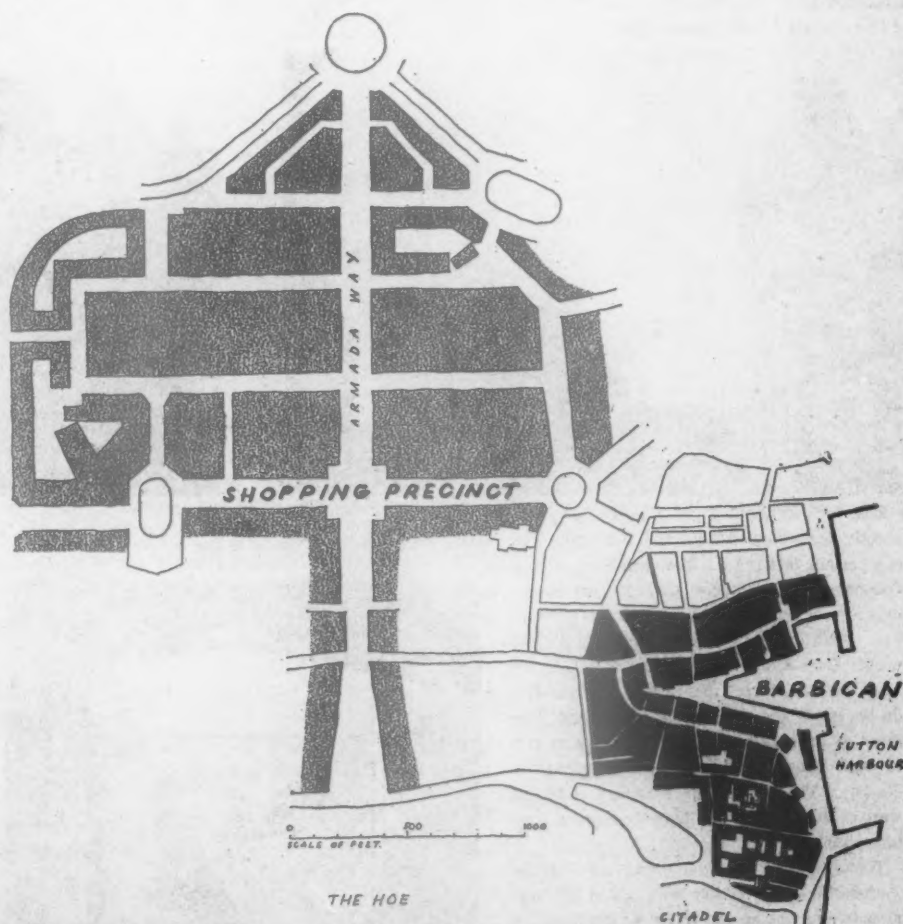
PLYMOUTH BARBICAN

In December 1956 the Reconstruction Committee of the Junior Chamber of Commerce of Plymouth wrote to the REVIEW expressing concern over developments in the Plymouth Barbican. With the publication of successive Compulsory Purchase Orders for land in the Barbican and the continued absence of any official plan for its future development, the Committee felt that the whole area stood in grave danger of obliteration. Consequently they stated their views to the REVIEW. It was a call for help, and as a result Gordon Cullen was sent to Plymouth to study the problem. His report, with its illustrations, is published 'straight' in the following pages. It is not a plan for the Barbican in the accepted sense. Recent events give no hint of a reprieve for the Barbican, in fact the threat has grown greater. So has confusion. The report attempts to specify the lasting values implicit in the problem and if these can be accepted as true then the considerations of finance, public health and zoning will at last find their correct level as aids to development, not as dictators.

The Junior Chamber of Commerce acts independently of the Senior Chamber and has an age limit of 40. Its interests are widespread, including industry, education, commerce and reconstruction and it acts as a sort of ginger group constantly seeking solutions to problems. Amongst its members are four city councillors, two J.P.s and principals of private businesses. I got the impression that the Reconstruction Committee was a sturdy group, enthusiastic but level headed, well informed and locally patriotic.

It appears that all energies have been pressed into the task of completing the shopping centre of Plymouth which is the apple of the eye of the engineer who, with Abercrombie, thought the thing up. The result is that other areas have been left to take pot luck and although everyone for one reason or another is concerned about the Barbican there is no comprehensive plan for it and consequently it stands in great danger of disappearing through the accidental erosion of day to day *ad hoc* decisions.

In order to make my point about the Barbican quarter I make a slight digression at this point. The shopping centre is really disappointing from the point of view of planning and architecture. Even I was surprised. But what is of equal importance is that it is a multiple store centre. When a local shop makes good it prefers to invest its profits rather than pay Income Tax. The investment takes the form of buying out competitors thus forming a chain of stores. But a multiple store operates differently to a locally established shop; its headquarters may be in London or Manchester and all the services that it needs are provided by salaried employees in London or Manchester. Thus we get the situation whereby



Plan of Plymouth showing the Barbican area in relation to the new shopping precinct.

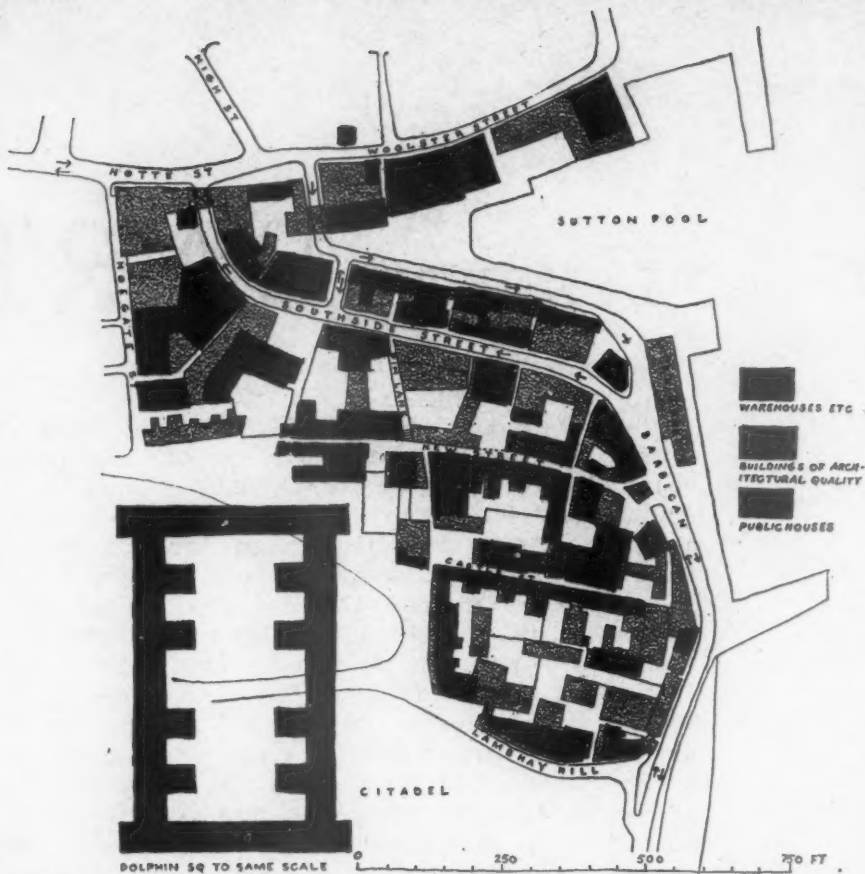
TOWNSCAPE

the local lawyer and solicitor, the local accountant, the local builder, the local printer and the local signwriter find themselves out of a job. Gradually the local centre is abandoned by many professional people and many craftsmen and when these valuable stalwarts have gone the area becomes a wasteland; it is on the way to becoming a depressed area, a Dagenham. And since much of the new Plymouth seems to consist of multiple stores (as to date the relative foot frontages are as follows: multiple stores 6,300 ft.; local shops 1,900 ft.) one can draw one's own conclusions. As the chain stores come in so the cream of the local society must emigrate and the vitality of the town is correspondingly reduced. In a physical way too the centre of the town is dead after the shops shut. Of course the displaced people must go somewhere, they are still English, but they come to London and instead of leaving local society they take jobs which are less responsible than they are fitted for owing to competition at the centre.

Against this background of sterility we must view the problem of the Barbican for although it is now only $\frac{1}{4}$ mile square it is, or could be, a rallying point for all those who want to arrest the devitalization of provincial England.

DESCRIPTION OF THE BARBICAN

Were it not for the singular fact that people still have to catch fish in the sea and sell them in the larger centres of the population it is probable that the vitality of the Barbican would have disappeared long ago. However it is still there and this is what I have learned about it.



Proposed redevelopment of the Barbican. Buildings shown in green are those worth preserving for architectural and historical reasons, and also for the reason that some buildings are important due to their position. Superimposed is a plan of Dolphin Square, London, to the same scale.

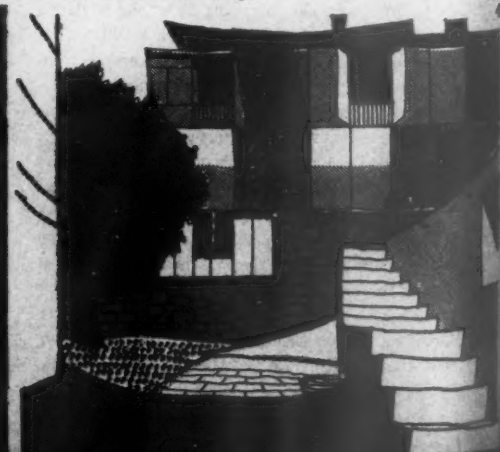


(a) Size and location. It is difficult to define exactly the boundaries of the Barbican. The one certain fact is that it is shrinking in size. Consequently I propose that an irreducible 3 hardcore be adopted by the allies the penetration of which would mean extinction. To the north, Nottle Street and Woolster Street, to the west Hoegate Street thence to Lambhay Hill on the south and the harbour to the east. This gives us an area approximately $\frac{1}{4}$ mile square of high density building overlooking Sutton Harbour. The bulk of the buildings is to the west of the harbour and here the ground rises appreciably.

(b) History. Trod by Drake and the Pilgrim Fathers the Barbican has been valued for these associations and in the 'Plan for Plymouth' it was proposed to put a wall round the area and

E means existing, P means proposal.

The boundary of the Barbican is clearly defined. 1, (E). It has an edge emphasized by the tower of the church hall. Beyond is the harbour. The entrance should be defined, 2 (P), to demonstrate inside and outside. Below, 3 and 4, (P) show the immediate impact of locality.





renovate the buildings to make an historic precinct which would nevertheless afford its occupants the benefits of modern civilization. It would be 'a fitting frame for the priceless antiquities which it contains'—Plymouth's oldest inn, the Old Ring o' Bells, in Woolster Street, was demolished in January of this year.

(c) Uses. There are four main uses.

1. It is a fishing port and although at the moment not as busy as it could be owing to the mystery of the movements of shoals of fish it is the main source of employment for the Barbican population. (The Plan for Plymouth wanted to get rid of the smelly fish and lay the quayside out as a monumental garden.)

2. There are a number of bonded warehouses, the Custom House, ships' chandlers, a yachting centre and the manufacture of Coates' Plymouth Gin. Also several antique shops, bookshops and the like. There is a street of normal retail shops—butchers, bakers, etc.

3. Housing. High density housing forms the bulk of the building, little of which complies with the bye-laws in respect to angles of light, overcrowding and sanitation. Many of the streets and alleys are no more than 10 ft. wide. There are several blitzed areas. The population has something of a reputation in Plymouth. Not exactly a dangerous quarter but a bit independent and full blooded. Families have lived there for many generations and are firmly attached to their own place. Although Plymouth has its Regatta, Sutton Harbour has its own, there is a fair held once a year and various junketings such as pram races, etc., etc. (Outside one pub I read the notice "Licensed for singing and dancing and entertainments of a like kind.")

4. Tourism. The quarter is well patronized by our American cousins since it was from here that the Pilgrim Fathers sailed (and to which two Tolpuddle martyrs returned after a lengthy stay in the Antipodes). This accounts for the antique shops, some of which seem good.

(d) Visual impressions. The atmosphere is reminiscent of St. Malo or some small French town and I kept catching the echo of a whiff of Gauloise cigarettes. There is an unbroken thread of architectural style from Elizabethan to modern including Renaissance, Georgian, Victorian industrial and Art Nouveau all inter-



The approach to a typical courtyard, 5 (E), hidden from view by the change of level. At present it is squalid but this is not the fault of the planning as is shown in the adjoining picture, 6 (P), the pedestrian way continues ...



... public but essentially personal through the undercroft, 7 (P), to Castle Street, 8 (E and OE) where the warehouse acts as an alternative to housing. Turning to the right, 9 (E), a great, contrasting slit takes the eye right down to the harbour.



TOWNSCAPE



woven together in this 'microcosm.' Courtyards, alleys, steps, small streets and a quayside form a living 'neighbourhood centre.' You turn off the road through an arch and find yourself in a courtyard overlooked by houses; at the far end are stone steps leading out to a higher alley. Although it is a public right of way one has the feeling of being an intruder. It is this sort of personal, almost possessive, planning which pervades the quarter.

THE PROBLEM

It seems that after a long period of ambivalence during which the architectural and historic values tugged against the squalor of the housing, Plymouth has decided to sweep the lot away, and pick out a few items from the debris for museums. The Barbican is being treated as a slum clearance area. 'The well-being of human beings must come before the value of historical precincts.' The effect of this is to split local opinion and precipitate a battle, for there is a strong and vigorous desire in Plymouth to retain the Barbican in a recognizable form. The solution put forward is one of reconditioning and the formation of enclaves by the demolition of derelict property for light and air and in which children can play.

I hope I have made it clear that in this quarter we have something unique. Not only is it a continuous growth as an architectural style, not only is the planning both intimate and exciting, not only is it an area of mixed and complementary uses but it is lived in by people who are firmly attached to it. This has to be seen as one thing, a sort of style-plan-use-population construction. You cannot destroy one element and retain the symmetry of the whole. It is my view that unless we can present the Barbican in this way, unless we can make it dramatically clear and obvious to all that by some miracle Plymouth possesses this unique asset, then we shall not succeed.

The actual solution of the problem of what to do to make the area sanitary, etc., is comparatively simple.

There appear to be four forms of blindness we shall have to cure.

1. Blindness caused by antiquarianism. The twentieth century respects the sixteenth century but knocks down the nineteenth. Even the eighteenth.



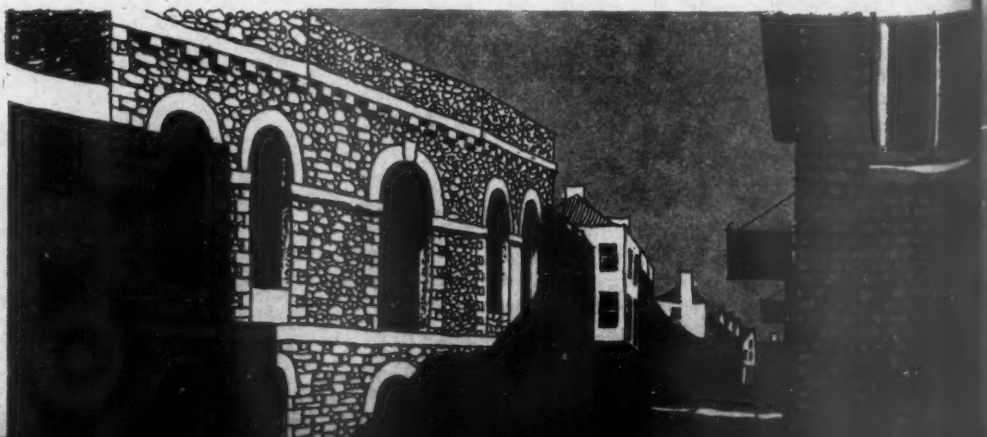
10

Looking uphill from the same point, 10 (E), the perspective is terminated in darkness and squalor. Without altering the identity of the place this can be redeemed by forming a new courtyard and tree planting, 11 (P).



12

Continuing along the pedestrian network Pin Lane in New Street is reached overlooking Southside Street, 12 (E). Here the opportunity is taken to propose a new, small piazza visible from New Street, so creating a sense of spaciousness, 13 (P). Below, 14 (E and OE) is Southside Street.



2. Blindness caused by an unwavering faith in bye-laws concerning angles of light, etc. Science is given us to try to make things work, not to destroy them if they offend. To knock down the Barbican because it offends the bye-laws is like shooting all people with stomach ulcers.

3. Blindness caused by aesthetic orthodoxy. Why is the Commercial Inn to be pulled down? Because they wish to build flats behind it and the Commercial would block the view out to the harbour. So it is to be demolished. This is an intriguing argument. On this basis the flats themselves are due to be knocked down as soon as built in order to let the people behind them have a view of the sea. Where does it all end? If you want a view of the sea the best place to go is to the edge of the sea or exploit change of level. Here is an example of the enforcement of an aesthetic gambit which is quite out of keeping with the spirit of the quarter which is centripetal.

4. Blindness caused by convention. Looking at the plan we see a typical higger-mugger of 18 streets with here and there a public building and an inn. We tend to regard it as just a bit more of that obsolete, outdated city pattern which makes us yawn and turn to Progress and Modernisation.

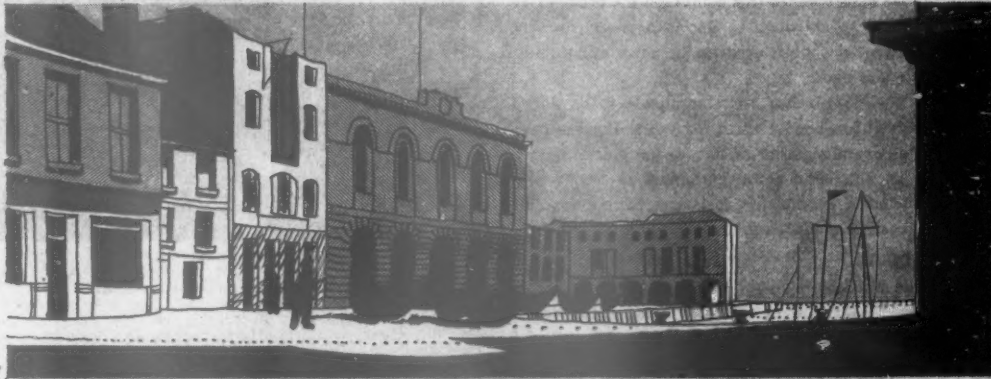
Yet the piece we are looking at is not all that large. Compare it with Dolphin Square and you get a shock. That is the point I am coming to. If you think of the Barbican as you would think of a block of flats you begin to get somewhere. Instead of corridors and access balconies there are streets and lanes, instead of balconies there are courtyards. It is as though Dolphin Square had been taken to pieces and re-assembled on a hillside overlooking a small harbour. The flats are stacked at different heights, some two storey, some six and, I propose, some ten.

There is a convention that housing falls into categories, bungalows, houses, flats, etc., and that these buildings are placed on the ground separately. Here we see the convention broken and instead there is a flux. The monolithic block of flats has been loosened and stretched. The hard, compact, crystalline structure of a block of flats has been prised open but the spaces thus created are not filled with the desolate prairie, they remain integral with the structure, they become *localities*. Seen in this way the Barbican takes on a new significance, it suddenly becomes a *Unité d'Habitation* in a very real sense for by this 'all-in' arrangement the isolation and placelessness of conventional housing has been replaced by a sense of locality. Compare the arid mono-scenery of a block of flats or a housing estate with the rich variety of this loosened crystal. In 50 yards you move from one place to



Two entirely different kinds of locality intermingle in Southside Street. It is a shopping street but lying parallel is the harbour and one is continually aware of this due to the numerous slits that link the two, 15 and 16 (E).

16



17

The friendly cosiness of the shopping street is left behind as the harbour is reached, broad and salty and with a spacious pedestrian area in the sunlight where the nets are drying. 17 (E and P).



Now the seaward wall, the Barbican itself. From across the harbour the severe limestone warehouses form a noble boundary to the microcosm. 18 (E). This wall is reinforced by building dwellings into it near Lambhay Hill. 19 (E) and 20 (P).

19

20



TOWNSCAPE



another, almost from one society to another. Within the overall unity style, colour and character modulate and change.

It is this insistence upon *place* and *locality* of a scale capable of being grasped which is the really significant lesson of the Barbican. Once we have reached this point then the problem of what to do with the Barbican is simple. The essential pattern exists; all it needs is bringing up to date.

The planner has been moralising to us about neighbourhood centres for years. Here is one, alive and vigorous. What do the planners do? They knock it down. Perhaps they don't know what a neighbourhood is just as so many pub designers don't know what a pub is.

ACTION

The situation is one of great urgency. At all costs the C.F.O.s now in operation must be suspended and a comprehensive plan for the area produced so that the erosion is stopped.

Our part in this would be (1) to make crystal clear what is in danger of being lost and (2) to suggest the technique of weaving into the old structure those essentials of modern living, sanitation, fresh air, district heating, etc., without delivering a mortal blow to the Barbican. It is not necessary to do the whole thing, the drift of the argument could be demonstrated in perhaps three examples. We are up against one difficulty and that is that the operation of conversion will be more expensive and require more application of the brain than knocking down and rebuilding. We must also take the greatest care to avoid the impression that we are solely interested in the quaint and are simply putting the whole thing into deep freeze. The lay public will understand our point of view and even see a lot of sense in it because it will guarantee the tourist industry. In fact what we are doing is tackling the problem of the decaying hearts of towns and trying to keep them alive and personal and urban, not suburban and anonymous.

The Barbican case is not in the least concerned with creating an artificial picturesque historical enclave full of arty ne'er do wells. It is a living, developing organism of ordinary hard working folk. Far from being obsolete and at the end of its life, it points the way to the town of the future and to destroy it would be another vote cast in favour of the technological wilderness we call Subtopia.

21



22



But in the centre the severity gives way to architectural life and bustle, with crowded shipping and the fish market. 21 (E). This should not be steamrollered and sterilized by a formal garden. Just leave the thing alone and add to its character. 22 (P). Finally we turn inland, back into the precinct, past the Elizabethan houses in New Street, 23 (E). Here a new square is proposed, 24 (P). This is the way forward. It can be done. Why should the 20th Century with all its power and resources drop the baton?



Reyner Banham

THE ONE AND THE FEW

THE RISE OF MODERN ARCHITECTURE IN FINLAND

'De Finsche architectuur is bekend door den genialen Finschen architect Prof. Eliel Saarinen, en met name door diens statige en voornaam gedetailleerde stationsgebouw te Helsingfors'.

The situation thus summed up by Professor J. G. Wattjes in 1925 seems to have repeated itself, *mutatis mutandis*, in the nineteen-fifties. When Wattjes wrote, Finnish architecture was indeed known only for the genius of the elder Saarinen, and only by the reputation of his gravely and distinguishedly detailed station in Helsinki, 1: and at the present moment Finnish architecture is again known for one man, Alvar Aalto, and one building, his sanatorium at Paimio—reading, as befits the changed climate of opinion, *structure for detailing*. But how justified then, and how justified now, is world architectural opinion in concentrating its esteem on one man?

As Wattjes went on to point out, Saarinen did not stand alone, nor was his station the only Finnish building of consequence erected in the first quarter of the century. The station itself was designed in collaboration with Gesellius and Lindgren, and the three of them were to produce an even more nobly-designed station at Viipuri* in 1910, while Armas Lindgren had to his personal credit two curious, craggy and strongly characterized office blocks in Helsinki. Quite independent of the three collaborators, Lars Sonck, who died only last year, was pursuing some aspects of Gothic Revival to a point almost as extreme and impressive as Gaudi, in his cathedral at Tampere, 2, and his later Bryghalls church, while his Telephone Building in Helsinki strikes another independent note. Four men do not make a school, and it is hardly to be expected that a country as small as Finland should produce many strong architectural personalities at any one time, yet it is difficult to see Saarinen as so conspicuously greater than the other three that he should be singled out. Rather, one feels, the few should have been seen as standing a little ahead of

* It now appears that the detailing of Helsinki station may be less to the credit of Saarinen than to the public uproar created by the 'rationalist' Sigurd Forestus when the competition-winning design was published.

a few others—who did not add up to a ‘many’, however one rated their abilities.

It is equally difficult, nowadays, to see how that one building, the station, should have given him so massive an international reputation. Conceivably Wattjes, as a leader of the romantic and eclectic trend in Holland, might have some special sympathy with its late Art Nouveau handling of forms, but it was a building that was held in esteem by more than just Romantics and Eclectics. Yet if one compares it with, say, the *Jahrhunderthalle* at Breslau, which in 1913 established the one-building reputation of Max Berg, the *Hillehuis* which in 1911 opened the short, brilliant career of de Klerk, or Bruno Taut’s Glass Pavilion of 1914, one cannot but wonder that its reputation survived the First War even in Romantic and Expressionist circles, while its manner of ‘losing’ the train-sheds behind a frontage of ‘Art-architecture’ would make it rank, in the eyes of Functionalists, below the same team’s Viipuri station, which exhibits its functional forms much more clearly. All this is not to question the quality of Helsinki station architecturally, but simply to call in question the unexpectedly high level of esteem that it commanded internationally.

One cannot ask the same questions about the reputation of Alvar Aalto, for the mechanisms on which it was built are perfectly clear, even if they have not so far been analysed. The questions surrounding Aalto’s position, at home and abroad, are of quite a different order. However one arranges the factors under review, whatever the viewpoint one adopts, it is clear that at home he stands immensely alone, as alone as Le Corbusier in France.

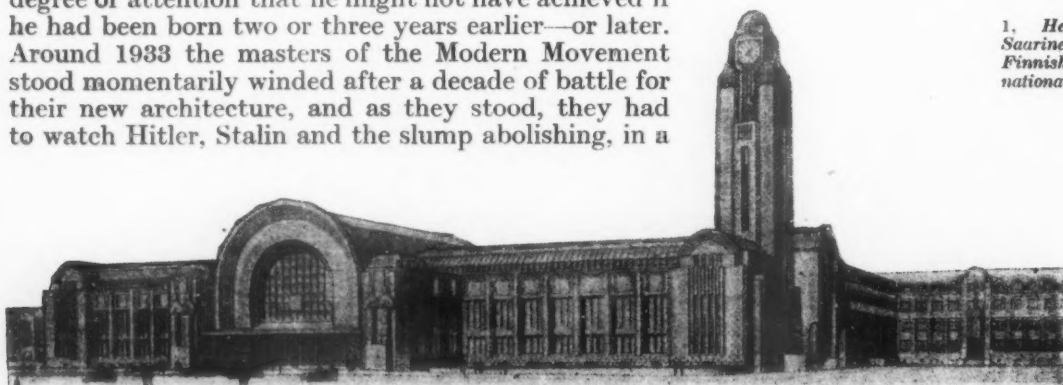
Furthermore, his unquestioned right to a position of international eminence is not justified merely by the opinion of the present writer, nor by the award of the RIBA’s Royal Gold Medal, but most conspicuously by the way in which his achievement has earned him a place in the pages of Professor Giedion’s *Space, Time and Architecture* alongside Le Corbusier, Gropius and Mies van der Rohe, and quite against the grain of the book’s argument. He was missing from the first and second editions, but rated forty pages to himself in the third edition, as against twenty-three for Mies, thirty-one for Le Corbusier, and thirty-five for Gropius. That the official guardian of the CIAM tradition should have taken Aalto so much to heart as to make him one of the Big Four of the Modern Movement is a measure of the man we are dealing with—no one would have rated Saarinen with, say, Behrens and Perret.

But it is also a measure of something that happened to the Modern Movement and guaranteed Aalto a degree of attention that he might not have achieved if he had been born two or three years earlier—or later. Around 1933 the masters of the Modern Movement stood momentarily winded after a decade of battle for their new architecture, and as they stood, they had to watch Hitler, Stalin and the slump abolishing, in a

matter of months, the basic social assumptions and political affiliations that had supported them. In this low point of architectural hopes, the publication of Aalto’s *Turun Sanomat* building, and his sanatorium (and the rumour of his Viipuri library) must have given everyone’s spirits a tremendous boost. Certainly, in a decade when the hopes of the International Style—so completely European in conception and development—tended to be pinned more and more on exotics like Junzo Sakakura and Lucio Costa, Aalto was the most hopeful newcomer, and the least exotic.

But, effectively, he had not come to save the International Style, but to finish it. His apparent affiliation to its formal usages and structural methods was coincidental; one might say, with literal accuracy, superficial. The undercroft of *Turun Sanomat*, with its rounded, tapered legs belongs to a different world from the undercroft of Le Corbusier’s *Cité de Refuge*, with its prim, cylindrical pilotis. The back of the sanatorium belongs to a different world to the constructivist framing of the side that is so familiar, 3. The interior spaces of the Viipuri library, and particularly the undulating ceiling of its lecture hall, were to be at impressive variance with its superficially boxy exterior. The International Style is only a phase, a phase that does not even comprehend the whole of his activity at any particular moment, in Aalto’s personal development.

[continued on page 247]

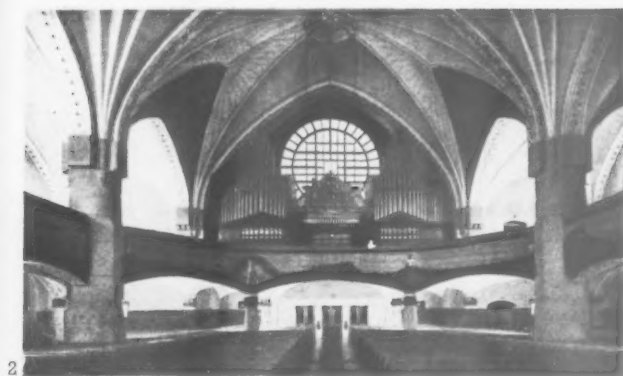


1. Helsinki station, 1906–1914, by Saarinen, Gesellius and Lindgren, the first Finnish building to attract wide international praise.

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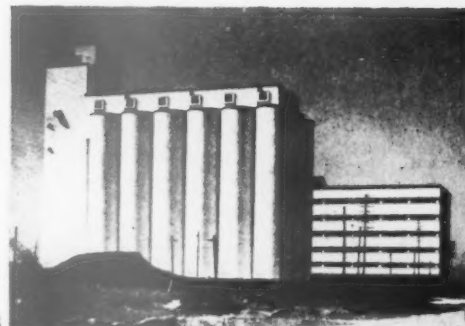
2, Tampere Cathedral, 1908, Lars Sonck's late exploration of the structural possibilities of Gothic, and one of the beginnings of that tradition of structural boldness that runs through the best Finnish modern architecture.



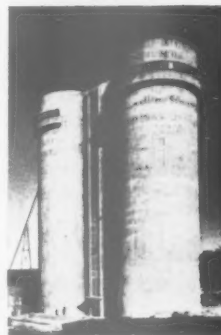
Paimio sanatorium, 3, is one of three masterworks (the others are Turun Sanomat and the Viipuri Library) that Alvar Aalto had in hand around 1930. Yet at that time he had left behind him the 'stripped neo-classicism' that was then the routine in Finland—his office block in Turku, 4, is as late as 1928.



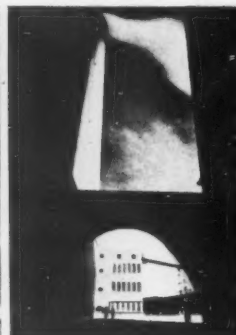
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6



7

Finnish factory buildings of the 'thirties not only adhered to established International Style procedures, as in Erik Huttunen's silos at Viipuri (1930), 5, but also gave signs that the more adventurous pre-1914 tradition was still at work, for instance, in the plant at Kauppi (1936) by Väinö Vahakallio, 6 and 7.



8



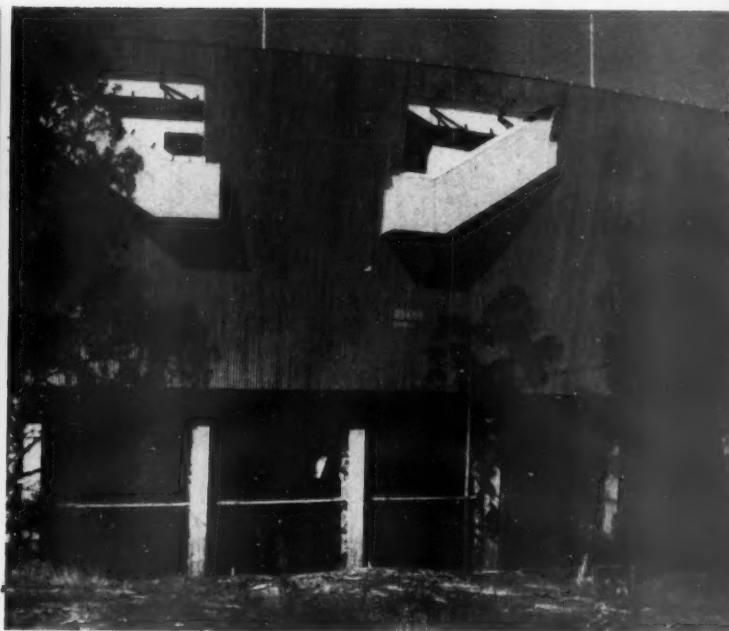
9

By the end of the 'thirties, Aalto's bold independence in the handling of form and structure was spreading, as Erik Bryggman's famous chapel at Turku, 8, shows; but after the war some deviation is apparent, in Aarne Ervi's conventional but monumental but monolithic power station at Pyhäkoski, 9, and Pauli Salomaa's Swedish-Empirical Domus Academica, 10.



11

The touchstone of Finnish modern is the handling of wood, most tradition-bound of materials, but used in a tough-minded and untraditional manner in K. and H. Siren's student restaurant at Otaniemi, 13 (below).



12

The new work added to Helsinki Stadium (Lindgren and Jäntti) in 1952, 11 and 12, is in strong contrast to the routine International Style of the older parts (visible at extreme left) and is one of the first signs of a general recovery of nerve in Finnish architecture.



14



15

Even the glossy rectangular style that descends from the recent work of Mies takes on a distinctive accent in Finland, as is seen from the exterior particularly of another building from the Siren office; the new studio theatre in Helsinki, 14 and 15.

Outside the workings of Aalto's own genius, the reasons for this are probably to be found in the nature and progress of the Finnish architectural tradition itself. Not—and this must be firmly said—in some vague, autochthonous peasant tradition such as sentimentalists have lately indicated as Aalto's inspiration (which, indeed, it may be, in some marginal way) but in the live professional tradition of building-design, backed by a vigorous Polytechnic training. That tradition, in about 1930, was in a condition that could not be paralleled in Europe at the time, though one can find parallels of a sort in Germany in 1910, or Italy in 1945. That is to say, a neo-classical tradition that, however crusty, was still a going concern, was just beginning to be scraped down from without, and undermined from within.

Aalto's and Bryggman's work of around 1928, 4, is as truly a scraped neo-classicism as some Milanese work of the immediately post-second-war years—even the shape and disposition of the windows is very similar, not to mention the axial, block-like planning. It is, in fact, the Finnish neo-classicism of the 'twenties deprived of its detailing. Something similar is true of Asplund's work, just across the Baltic, in the 'twenties. But whereas it took Asplund a whole decade to progress from the stripped classicism of Stockholm library to the papery modernism of the Stockholm exhibition of 1930, Aalto and Bryggman took the same stride in a bare six months, and produced a very similar style for their Turku exhibition buildings, notably the restaurant, as early as 1929.

But at least one building for that exhibition in Turku gives a hint of the way beyond the International Style, that more humane or organic mode of design that Aalto has been correctly honoured for pioneering. This was the orchestra platform, a wooden structure with a sloping apron in front and a curved baffle wall rising behind, rising and nodding forward at its head. Across the baffle wall at various heights there ran parallel horizontal ridges, giving at once an out-of-period air. If it were not known that this was a work of Aalto's one would be forced to suppose it the design of a German expressionist of about 1920, or an American 'Borax' designer of about 1940. It draws attention very forcibly to the advantages that Aalto, Bryggman and their generation could derive from the unusual state of Finnish architecture at that time, with its surviving neo-classic and gothicist traditions.

What it amounted to was this: that Aalto's generation were free to make a set of decisions that had been closed to architects nearer the centre of Europe for almost a decade. Before them still stood the possibilities that had faced Gropius or Le Corbusier in 1910; the choice, crudely phrased, between classicism and expressionism. Before them still stood the possibilities that had faced Gropius and Mendelsohn in 1920; the choice, roughly, between synthetic and natural materials. Before them stood an open door that the masters of the International Style had slammed behind them, and through it they took with them possibilities that those masters had left behind. Though these particular possibilities were to be most fully explicit only in the 'fifties, in Aalto's work at Säynätsalo, his long reach back into the potentialities of pre-1914 Werkbund expressionism shows itself in

the water-tower and the flake-bins of his 1933 factory at Toppila.

That this appreciation of forgotten possibilities was not a private fancy of Aalto's one can see from Vähäkallio's nearly contemporary factory at Kaukopää, 6, 7, where such Werkbund-expressionist themes as the parabolic arch are given new life. Kaukopää, indeed, shows how nearly Aalto did not stand alone, but (as it turned out) he and Vähäkallio failed to take the rest of the profession with them—for the moment at least. For the rest of the Finnish Modern Movement became as much an orthodox or academic province of the International Style as the Modern Movement in England or Italy in the 'thirties. Not that great things could not still be achieved within the formal limitations and structural rigours of the Grand Old Style, as Impington and the *Casa del Fascio* bear witness, and in Finland Erik Huttunen, probably the first architect to be invited to design a grain-silo, not admire it, built from 1929 onwards a set of silos and other plant for SOK (Finnish Co-operative Societies) at Viipuri, 5, Rajamäki and elsewhere, that are pure International Style, spare and regular, and among the best things done in the decade.

This was the direction in which the few were now mostly headed. Bryggman's independent works are as orthodoxly modern as Huttunen's in the early 'thirties, and where an architect like Blomstedt 'crosses the floor' to modernism, as in his bank at Kotka, it is usually straight into the idiom of the International Style. Meanwhile, Aalto continued on his own line of development, and shook the world at the end of the decade with his Finnish Pavilion at the New York World's Fair in 1939. No other architect in the world, let alone Finland, could have produced at that moment anything quite so spectacular, so appropriate, and so completely original as that great disquieting, irregularly planked wall of wood sagging wavily out over the visitors to the pavilion. No-one, in fact, was to do anything like it for another fifteen years or so—the free-form ground plans of the Brazilian school result in an entirely different architecture, and it is only with Le Corbusier's Ronchamp that the other members of the Big Four have shown any signs of wishing to emulate him.

But in Finland, just as the second World War was about to boil up, it was clear that his example was beginning to be heeded, even if his forms were not copied. Bryggman's famous chapel at Turku, 8, Huttunen's churches at Nakkilan and Ragamäen are steps towards enjoyment of the formal freedom in which he worked. But they were only steps, and the two Finnish wars and their painful aftermath prevented any further steps being taken for practically a decade. And at the end of that decade one might have been excused for wondering if Finland's architectural nerve had not been permanently shattered. When Huttunen built at Nokia the replacements for the SOK silos at Viipuri, damaged in the fighting like Aalto's library (and both now behind the Russian frontier anyhow) he returned to his old International Style manner. Whatever excuses can be made for him on account of the nature of the functional programme, as they can also be made for Aarne Ervi's power-station at Pyhäkoski (1949), 9, no equivalent excuses

can now be found for Pauli Salomaa's *Domus Academica* hostel in Helsinki, 9, Finland's one conspicuous contribution to Scandinavian empiricism.

However cogent the reasons for its quasi-traditional elevations and pretty detailing may have been,* *Domus Academica* represents a deviation from the real Finnish tradition, which is one of tough-mindedness and structural adventure, and has been so since the earliest works of Sonck. But subsequent events have made it look even more out of step with the rest of Finnish tradition. Not only Aalto's tough-mindedness, but his independence, too, has spread to the Few. He may still be an isolated figure in some ways, but his background is no longer a province of some imported style. The other leaders of the profession have also acquired his ability to be very Finnish, and yet quite unprovincial.

This again is in marked contrast to Sweden. An empiricist, who settles, by definition, for a second-hand type of inspiration, also settles for provincialism. Further, empiricist and peasant alike use traditional, known materials, to produce known solutions to known problems. Aalto has always used peasant materials in a manner that is beyond the scope of a peasant mind, even if not always beyond the reach of peasant technology, and once this aspect of his work began to be understood in Finland, the foundations were laid for a state of mind that made the equally circumscribed mentality of empiricism impossible. Nothing could show this more dramatically than the use made by Finnish architects of the most 'traditional' or 'peasant' of all materials, wood.

In fact, the recovery of nerve among Finnish architects is most clearly marked by the wooden structures added in 1951-2 to Lindegren and Jäntti's Olympic stadium in Helsinki, 11, 12. Designed as far back as 1934, the earlier parts of the structure are orthodoxly modern in form, even in such elements as the tower that were primarily intended as eye-catchers. The extensions are wooden in structure and wood-clad, and though they are not particularly monumental, which would hardly be in character for such a building, they are not merely pretty or frivolous, and the use made of the material, though distantly Aalto-inspired, is in no sense a copy of anything he has done. One or two direct confrontations of Aalto's use of wooden structure, and that of other architects in the post-war period are possible—and instructive—because they show how often a superficial similarity of form can disguise a radically different approach to construction. On examination it will be found that the roof-trusses of Aalto's council-chamber at Säynätsalo, and those of Jorma Järvi's school hall at Kulosaari (page 254), do resemble one another only in the device that immediately takes the eye—the mode of threading two beams through three—and that the structural conceptions are utterly different. Again, the bolted wooden roof-trusses of the Sirens' students' restaurant at Otaniemi, 13, somewhat Brutalist in its use of materials and fixings are only superficially like any work by Aalto. By and large, it is Aalto's freedoms that have been learned, not his forms or his methods.

The work of the Sirens' office brings up another problem of Aalto's relation to current Finnish archi-

tecture—the curious and highly characteristic twist that the Finns contrive to give to that smooth, rectangular, mechanistic elegance, inspired by Mies van der Rohe, that is about all that now survives of the International Style. The inside of the Sirens' Studio-Theatre, 14, 15, an extension to the National Theatre in Helsinki, has this kind of elegance as near as any building in Finland has it, but the exterior, which is as smooth and shiny and rectangular as the mode requires, wears its elegance with a difference that is hard to pin down—but has most to do with the use of cladding materials and the management of window-grids. However, this particular problem refers chiefly to the work of Viljo Rewell (and his various partners). In 1952 his Palace Hotel and office block (page 255) began to raise the problem distinctly, for the elements in hand—a large regular building-envelope with uniform fenestration, raised on pilotis—would seem to promise an almost Hiltonian lushness and smoothness. Instead, the building has a rather stern and hard-faced quality that well suits a fellow-countryman of Sonck. Or, to come at the problem from another side, the office and reception suite of Rewell's factory at Hanko would seem, from a mere verbal description, to be only a variant of General Motors Technical Centre, but the effect is, in visual fact, surprisingly different. Here one can point at a particular cause besides the wooden ceiling, and that is the dark-finished pilotis standing obtrusively about the room-space, something which does not happen in equivalent US buildings.

All of which suggests that Finland's connection with this international elegance is not by the direct line, through the younger Saarinen, but more deviously and—most probably—through Aalto's own, very personal, version of it. For those who incline to think of Aalto only in terms of Paimio, or only in terms of free forms and wooden walls, should also remember that he is a master, too, of window-grids and of engineering brick, with all that that implies. The fenestration of his steel industry offices in Helsinki (page 256) is unmistakably of the 'fifties, and yet notably at variance with the international norms of patent glazing; and one would be hard put to it to find any contemporary comparison for the very contemporary handling of some of the parts of the insurance office building he has just completed in Helsinki (page 250)—should it be to some aspects of the New Brutalism, or to such tough-guys of the 'twenties as Korn and Weitzmann?

For here again one has that sense of Aalto's ability to tap the very sources of the Modern Movement, an ability that seems to have fed a real and fundamental strength into Finnish architecture of the post-war years, so that it has been able to stand on its own feet, find its own solutions, in spite of its influential neighbours. It would be absurd to suggest that some continuing Swedish influence is not still visible—as in some of the housing at Tapiola new town—but the Swedish can hardly be said to represent anything like a major influence. For the most part, the Few—Ervi, Rewell, Järvi, the Sirens—have fully reaped the lesson of the One. They have Aalto's ability to be regional without being provincial, to command an international esteem while using a national idiom—and that is a practically unique achievement in this century.

* cf. *Architectural Review*, Jan., 1949, p. 57.

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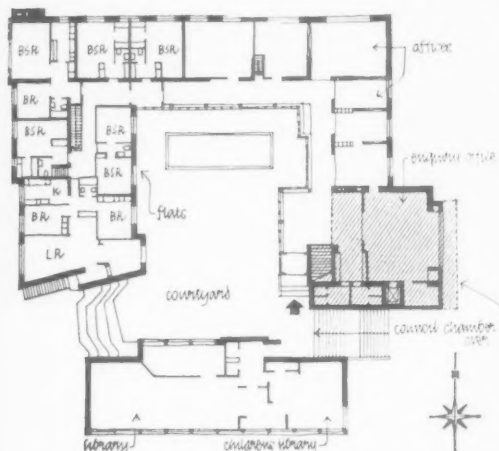
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PUBLIC BUILDINGS

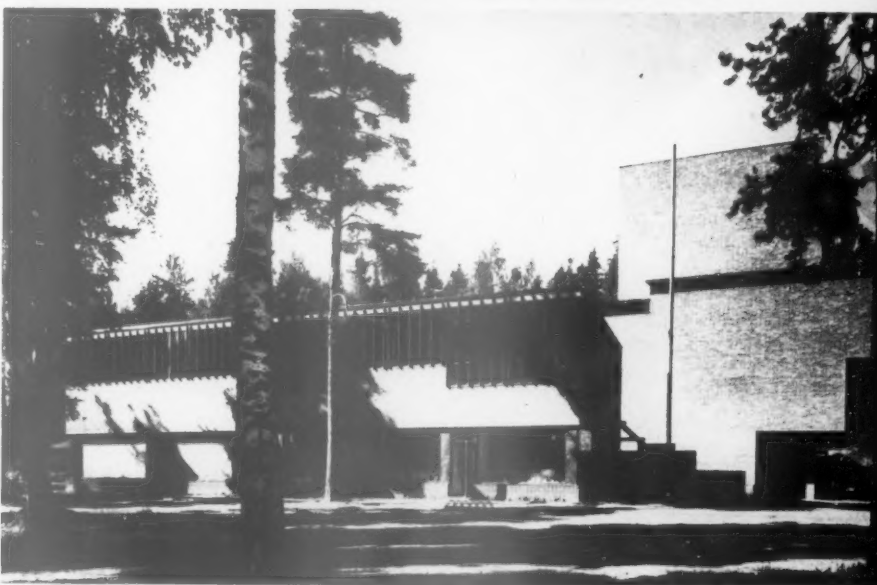
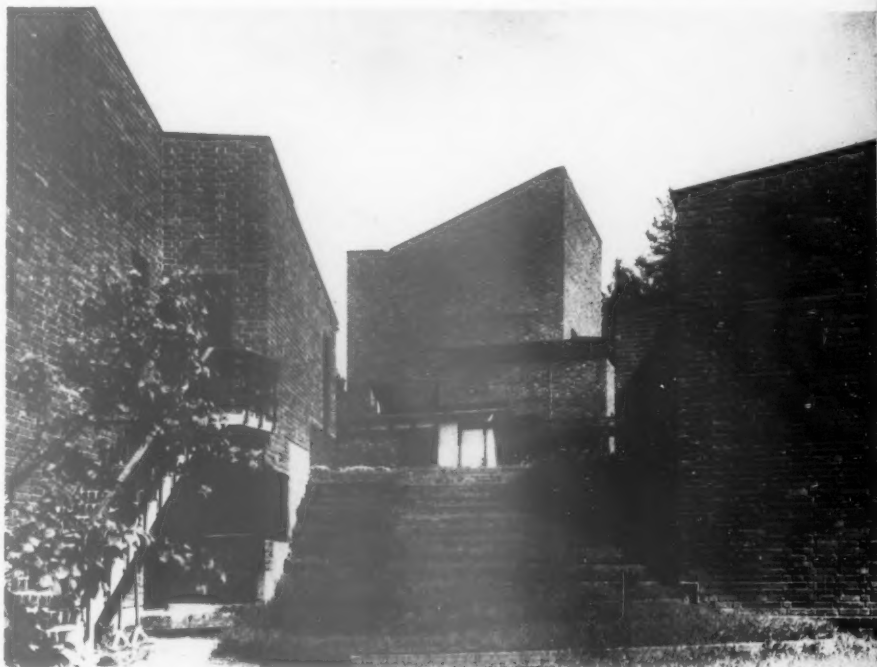
CIVIC GROUP, SÄYNÄTSALO

ARCHITECT: ALVAR AALTO

Säynätsalo is a small town about 200 miles north of Helsinki, and this group of civic buildings (the outcome of a competition), built in 1951, is intended to be the first stage of a long-term plan for developing the centre. It is placed on a small plateau and consists of a library, municipal offices, a council chamber and two flats for municipal officials, all planned round a courtyard, from which the buildings are entered and which is reached by steps. These enter the courtyard on the south-east corner; an opening on the opposite side of



the courtyard, between the library and the flats, allows a view over the country and the entrance of the low westerly sun. At the lower level of the surrounding streets are shops along two sides (beneath the library and offices). The council chamber is on an upper floor, reached from the entrance hall serving the offices. The walls are load-bearing brick of a dark red colour, with copper trim.



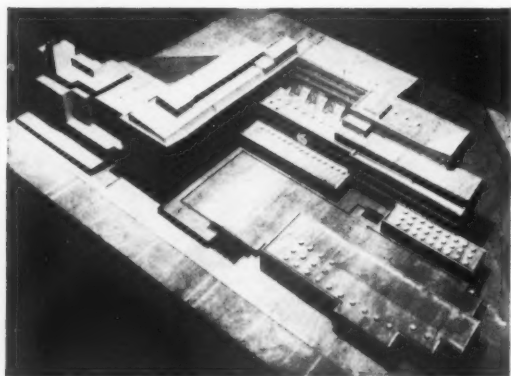
1, from the west, showing the sloping bank up to the level of the courtyard. 2, from the south, with the timber louvres screening the library windows above, and shops below. On the right are the steps leading up to the courtyard. The council chamber is beyond. 3, inside the council chamber. 4, detail of its open timber roof. 5, entrance to the offices (at top of steps): courtyard on left.



6, flank view of office wing, with power-house and garage entrance on right.

INSURANCE OFFICE, HELSINKI
ARCHITECT: ALVAR AALTO

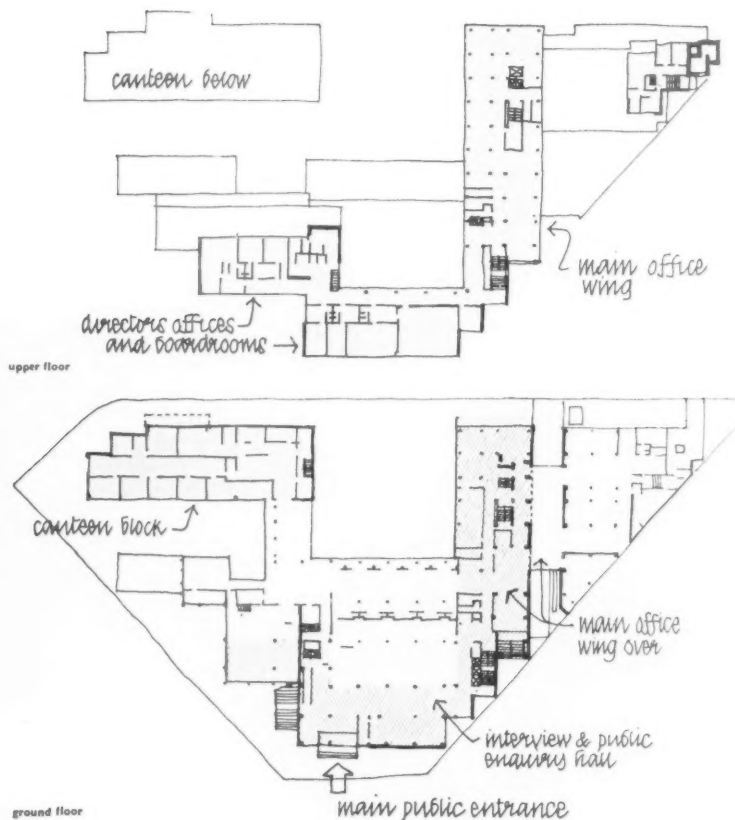
This office building, completed in 1956, houses the government departments dealing with pensions and other aspects of social security. In the centre is a top-lighted public enquiry hall, subdivided by screens into interviewing cubicles. A number of offices are reached from balconies accessible directly from the hall, but the main office



7, block model. The separate canteen wing is in the bottom right-hand corner.

accommodation is in a six-storey wing running at right angles to it with a separate entrance. The hall is entered through a waiting vestibule, above which are committee rooms and board rooms. These and the directors' offices alongside are reached from a lift and staircase hall beside the public entrance.

The building is exceptionally well provided with recreation and other facilities for the staff, which



include a library and a large canteen. The latter, with its kitchens, is contained in a single-storey wing at the back, separated from the main building by a courtyard. This is on a higher level than the ground floor of the main building owing to a rise



8

in the ground, and the canteen wing is linked to the main building beneath the courtyard. The building has a reinforced concrete frame. External walling is a rather hard red brick. Cills, copings, window-mullions and the various roof structures are sheathed in copper.



9



10

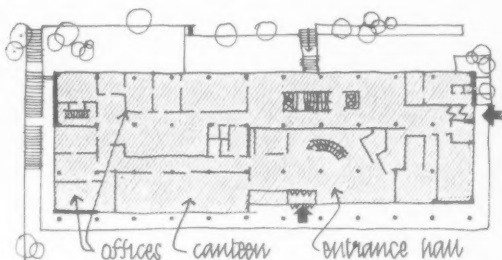
8. looking across the raised courtyard towards the six-storey office wing. On the left are the windows of the canteen and on the right the central block containing the public enquiry hall, with (extreme right) a passage beneath it to the street. 9. interior of public enquiry hall showing interview cubicles and gallery access to offices. The top lighting consists of a series of double roofs of very steep pitch designed to throw off snow. 10. interior of the canteen. The walls are lined with fluted ceramic panels; the ceilings with metal plates concealing heating units.

UNIVERSITY BUILDINGS

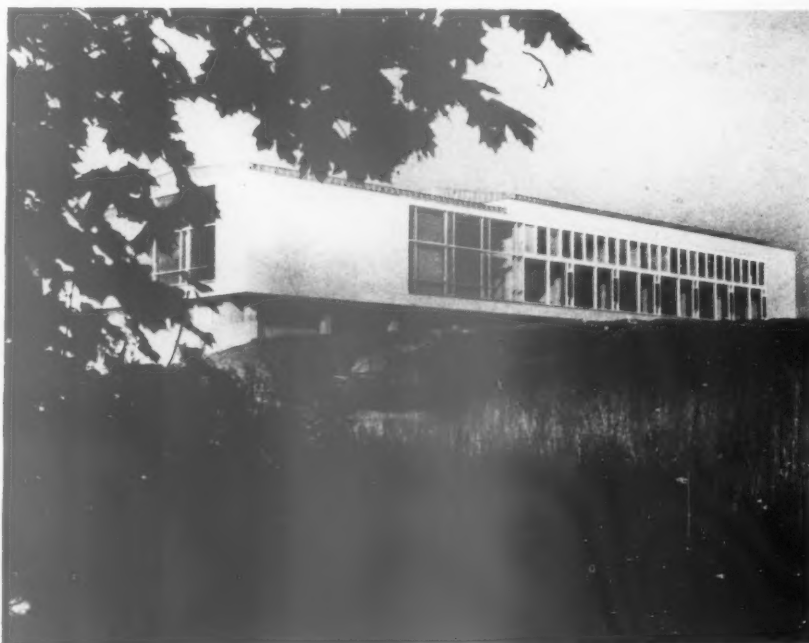
LIBRARY, TURKU

ARCHITECT: AARNE ERVI

An addition to the existing group of university buildings, closing the west side of a courtyard which occupies the highest point of the site. The book stacks occupy the two lowest floors and on the upper of these two is a range of studies. The main entrance from the courtyard is on the floor



above (plan herewith). There are two floors above this, reached by a curved staircase direct from the entrance hall, which are laid out as reading rooms of various sizes. The first floor also contains the catalogue room. The building, which was completed in 1954, has a reinforced concrete frame.



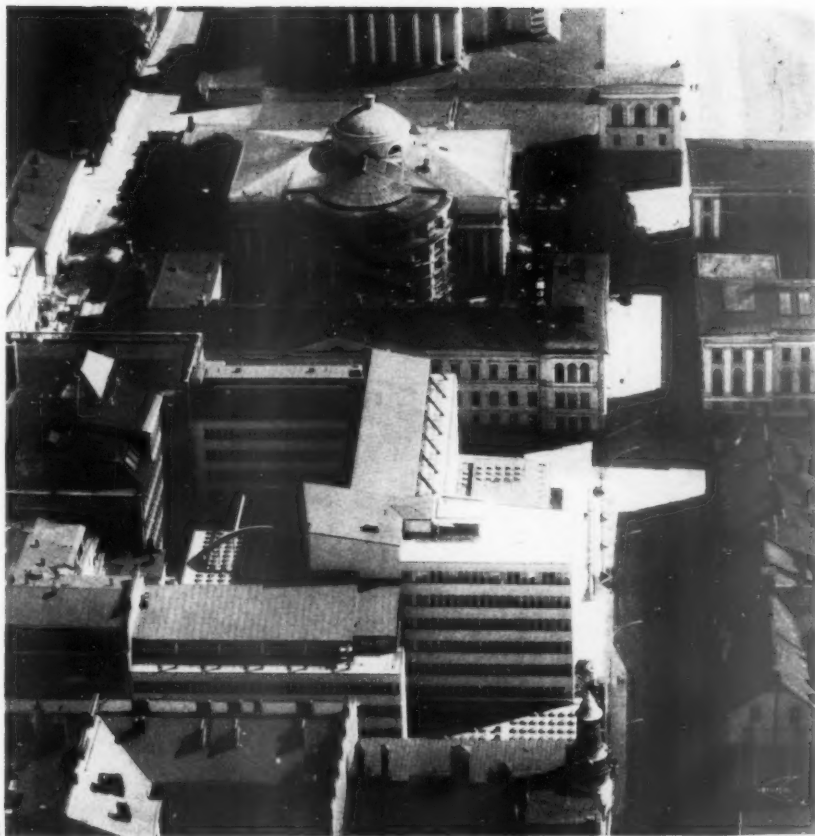
11, the library from the south-east.

UNIVERSITY BUILDING, HELSINKI
ARCHITECT: AARNE ERVI

The building, finished this year, forms part of the main complex of university buildings near the centre of Helsinki, largely designed in Greek Revival style by the early nineteenth-century architect, Engel.

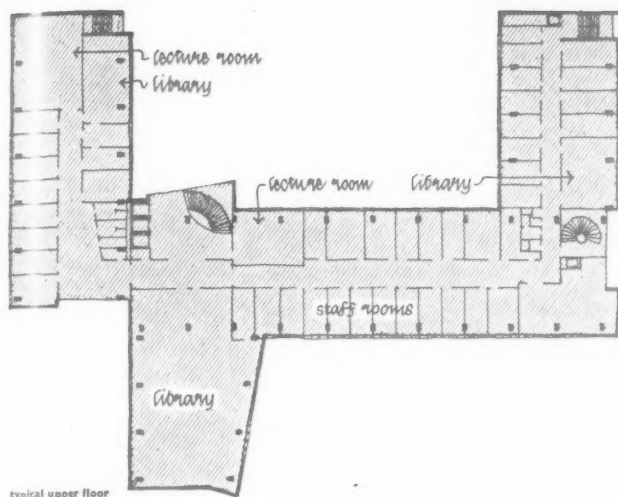
It houses the faculties of law, mathematics, languages, etc. The ground floor consists of a number of auditoria, the larger of which are provided with ample foyer and cloakroom space so that they can be used on occasion for public lectures, etc. At mezzanine level, suspended over part of the entrance hall, is a students' restaurant. In the basement are a gymnasium and a Finnish bath. The upper floors, reached by lifts and a spiral staircase from the main entrance hall, consist of three wings with central corridors containing lecture rooms, staff rooms and specialist libraries. In a projecting wing is the main library. A basement gallery connects the new building with the old university library adjoining.

The structure of the building is almost wholly prefabricated, including beams, floor-units, facing slabs, etc. The whole concrete frame was prestressed after the various elements had been placed in position. Main spans are over 40ft, creating large clear floor areas. The external facing material is ceramic mosaic.

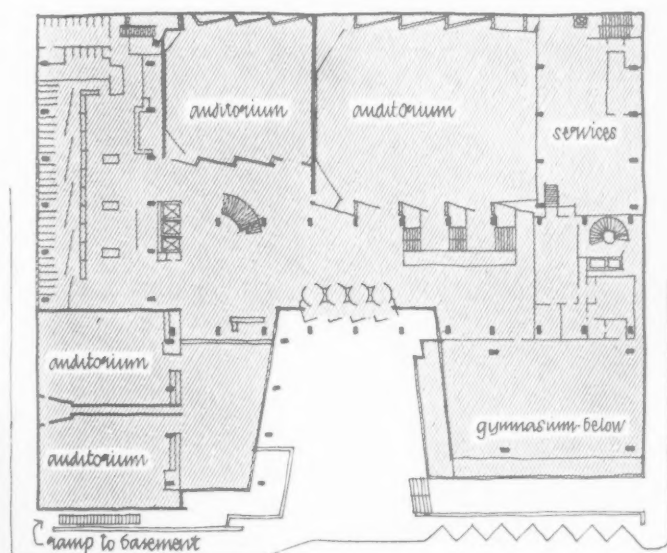


12, the new building shown in relation to the old library (in the background) and the main university buildings (top right). At the top of the picture are part of the great church and senate square. 13, main façade with gymnasium in foreground.





typical upper floor



ground floor



14



15



16

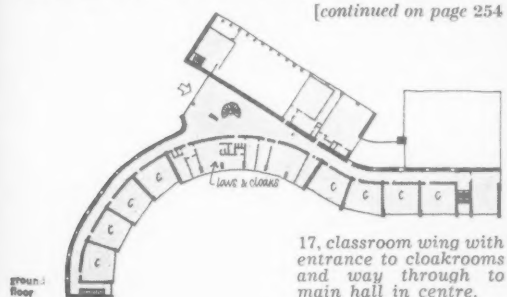
14, the main stair at foyer level with lifts and cloakrooms in background. Treads are precast and prestressed. The glass-brick wall, right, continues the full height of the stair well. This picture also shows the form of the main structural beams, columns and floor units, which are left as they come from the shuttering and colour-washed. Attached to the columns are insulated pipes carrying hot water to the floor heating panels. The floor is north Finnish dolomite. 15, stair at basement (gymnasium) level. The panelling on the left is red pine. 16, looking into one of the specialist libraries. Partitions are timber framed and double glazed to reduce sound transmission.

SCHOOLS

**ARCHITECTS: VILJO REWELL
AND OSMO SIPARI**

An elementary school at Meilahti, a suburb of Helsinki, completed in 1952. A two-storey wing, undulating in plan, contains the classrooms. It is separated from the assembly hall block by a

[continued on page 254]



ground floor

17, classroom wing with entrance to cloakrooms and way through to main hall in centre.

17





18. interior of the assembly hall in the school at Meilahti by Rewell and Sipari, showing clerestory lighting by means of a continuous glass brick wall spanning between the structural framework. The beams support the upper floor over part of the hall.

continued from page 253]

triangular entrance and staircase hall. Cloakrooms, etc., are in the centre of the classroom wing, and are reached both from the entrance hall and from the playground outside. Construction is a reinforced concrete frame with panel infilling of brick.

ARCHITECT: JORMA JÄRVI

A high school at Kulosaari, Helsinki, completed in 1955. The assembly hall, with fixed seats and raking floor, is in the centre of the building and has a dining room at one end at its upper level (see section below). At the lower end is a gymnasium, raised on columns to provide a cloister round two sides. Beneath the gymnasium is a large entrance hall the full width of the assembly

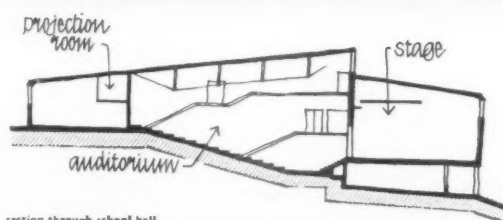


19

hall and cloakrooms, changing rooms, etc. On the other side of the entrance are laboratories and staff rooms. Classrooms are in two tiers on either side of the central hall, the upper tier being reached by staircases inside the hall. Construction is reinforced concrete and brick.



20



19, from the south-west, showing gymnasium block with entrance beneath. 20, the central hall with open timber roof and cantilevered stairs leading to upper classrooms.

COMMERCIAL BUILDINGS

HOTEL AND OFFICES, HELSINKI **ARCHITECTS: VILJO REWELL** **AND KEIJO PETÄJÄ**

Overlooking the waterfront, this combined hotel and office building was completed in 1952 to serve as the headquarters of the Olympic games. It was the outcome of a competition, and has an H-shaped plan. On the ground floor are shops and the entrance foyer of the Palace Hotel. From this foyer lifts serve direct to the hotel proper, which occupies the whole of the eighth floor. Here are bedrooms (with internal bathrooms), service rooms and a small breakfast room, but no other public rooms. On the first floor is a café and grill room and on the ninth and tenth floors a restaurant and Finnish baths. The intermediate floor contain offices with separate entrance lobbies. The building has a reinforced concrete frame. The external wall surface is composed of slabs of reconstructed stone.



21

21, the bar adjoining the top-floor restaurant. 22, the main front facing the harbour.

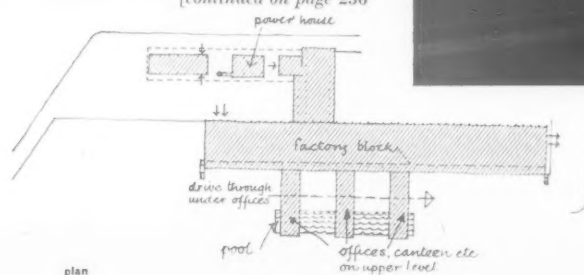


22

FACTORY, HANKO **ARCHITECT: VILJO REWELL**

A clothing factory, completed in 1956 and said to be the most up to date, in plant and lay-out, in Finland. At present it employs 250 people, but it will be expanded later. Hanko lies at the end of a peninsula at the extreme south-west corner of the country, and the factory occupies an open, well planted site where it is intended later to build a house for the owner and terrace housing for

[continued on page 256]



plan



23, one of the office wings, with part of the machine-hall of the factory on the left.

24



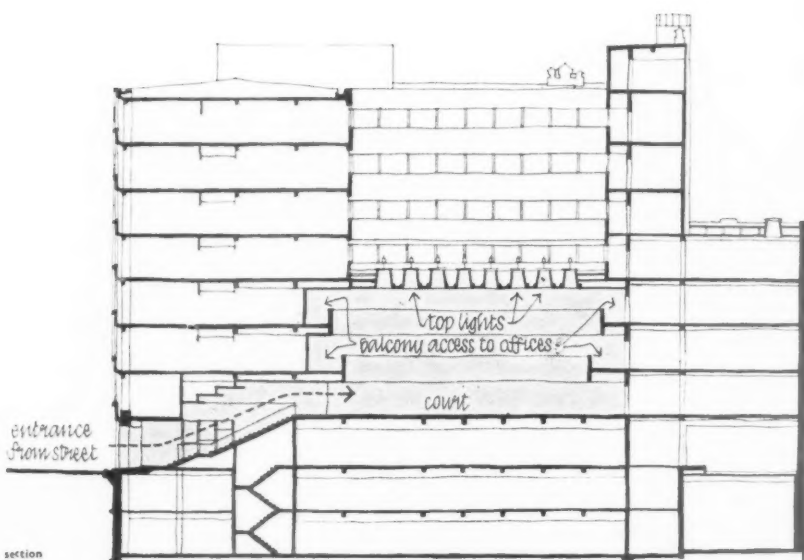
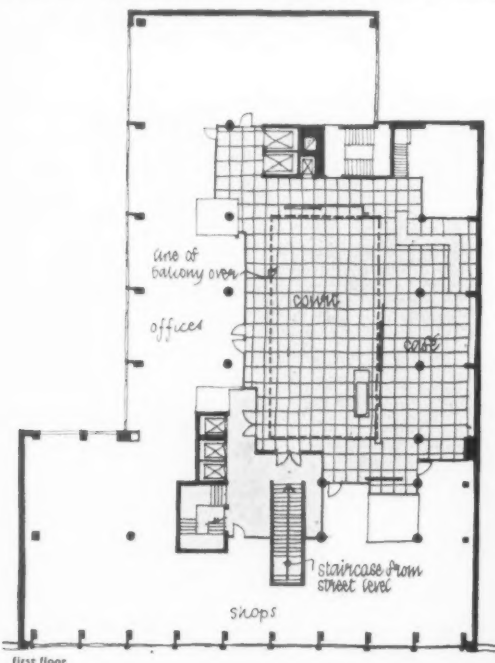
continued from page 255]

employees. The machine hall is built along the top of a steep slope, so that the wings at right angles to it, containing offices, locker-rooms, canteen, etc., although on the same internal floor level, are raised above the ground with a drive-away beneath them. The entrance for office staff is at the lower level, through a vestibule on the ground floor of one of the wings. Factory workers enter direct at the upper level. The machine hall consists of a single space, uninterrupted by columns; along one side is a gallery off which open control rooms, ventilation plant, etc. The walls are clad in aluminium.

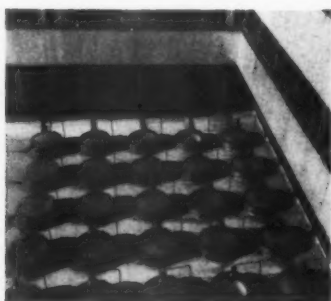
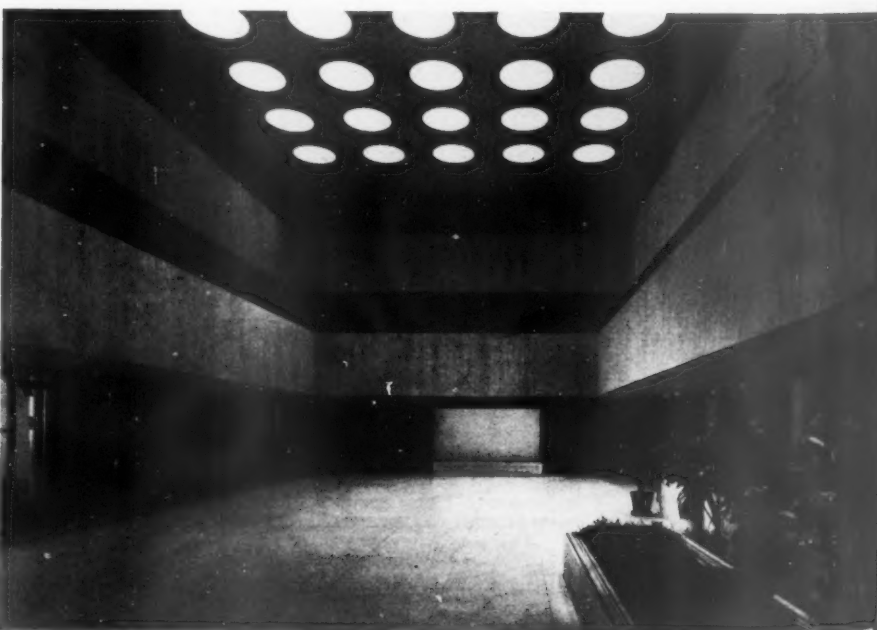
24, the reception office in the factory at Hanko. It occupies the ground floor of one of the wings spanning the drive-way (see plan on previous page).

OFFICE BUILDING, HELSINKI ARCHITECT: ALVAR AALTO

In one of the main shopping streets of Helsinki: an office building put up for a steel corporation and completed in 1955. There are shops on the ground floor, one of them being occupied as show-rooms by Artek, the firm that manufactures and markets most of the furniture, ceramics, glass and textiles designed by Alvar Aalto and other leading Finnish designers. In the centre of the fairly

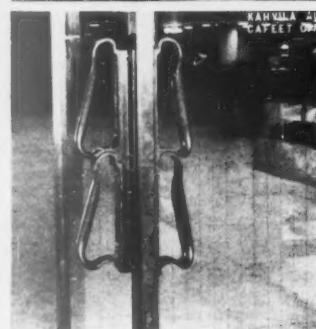


25, looking into the internal court from the top of the stairs leading up from the street. The café is on the right; the far wall is faced with fluted ceramic panels. 26, the glass domes that light the court, seen from above.



26

25



27, the street front. 28, inside the Artek showroom, at the foot of the building to the left of the entrance. 29, a detail of the handles on the glass doors between the staircase leading up from the street and the court.

narrow front a wide flight of steps leads up and through double glass doors into a large top-lit central court. Along one side of this, partly screened by fountains and indoor plants, is a pavement café; from the other side there is direct access to the mezzanine level of the shops, which are designed on two levels. The court is surrounded by two tiers of balconies, from which some of the offices are reached, the majority of the offices being reached in the usual way from lift and

staircase lobbies, one at either end of the court (see plan). The top lighting of the court consists of a pattern of shallow glass domes, set in a flat concrete pavement, with lights above. The warmth of these lights (and in daytime the warmth of the air in the court below) melts any snow that falls on them sufficiently to make it slide off into the spaces between the metal cylinders into which the glass is fixed. The paving of the court and the facing of the balconies is Travertine.

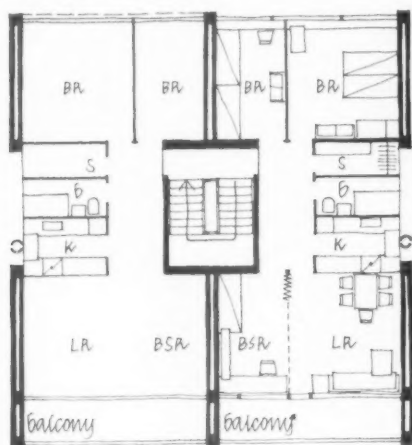
HOUSING

All the housing illustrated on these pages is at Tapiola, the new town now under construction about five miles south-west of Helsinki. At present it is largely a dormitory town but it will later

become a partly self-contained satellite. Its eventual population (in six years' time) will be 15,000; it has now reached about 3,000. It was begun in 1953. Aarne Ervi is planning adviser.

ARCHITECT: VILJO REWELL

A four-storey block of flats, raised on pilotis and constructed wholly from prefabricated reinforced concrete elements. It was completed in 1955. Services are grouped around ducts separating each pair of flats. The large living-rooms can be sub-divided by a folding partition, as shown in the plan of two typical flats, below.



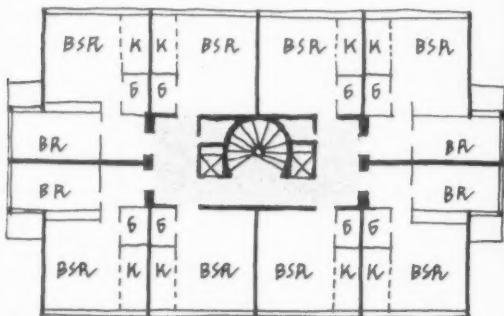
typical plans



30, the flats from the bedroom side.

ARCHITECT: VILJO REWELL

A point block, completed in 1955. It is one of three identical blocks sited in a row at the top of a ridge, well planted with trees. As the plan, below, of a typical floor shows, each floor contains four one-room flats and four two-room flats, all served from a central staircase hall. The semi-circular staircase is flanked by lifts. The long sides of the block face east and west.

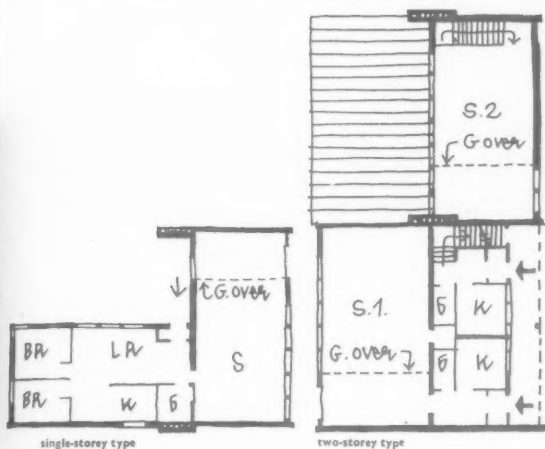


typical floor plan

31, the eastern face of the block, from below.



ARCHITECT: A. BLOMSTEDT



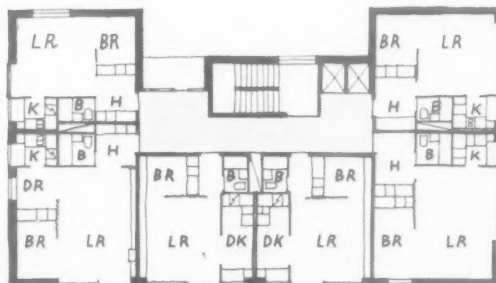
32

A terrace of artists' residential studios, completed in 1954. The scheme comprises two types, each with a double-height studio with a gallery across one end. The single-storey type (plan far left) has the residential accommodation in a wing at right angles. In the two-storey type (lower floor plan, left) it occupies the angle between two studios.

32, the single-storey studios from the south; one studio of the two-storey type can be seen on the left.

ARCHITECT: AARNE ERVI

A point block, completed in 1954, containing six flats on each floor (see typical floor plan on right), reached from a staircase and lift hall occupying the centre of the east side. The block rises from the middle of the shopping centre in the first neighbourhood to be completed in the new town. The centre contains single-storey shops, a café, a cinema, and a service station with garages.

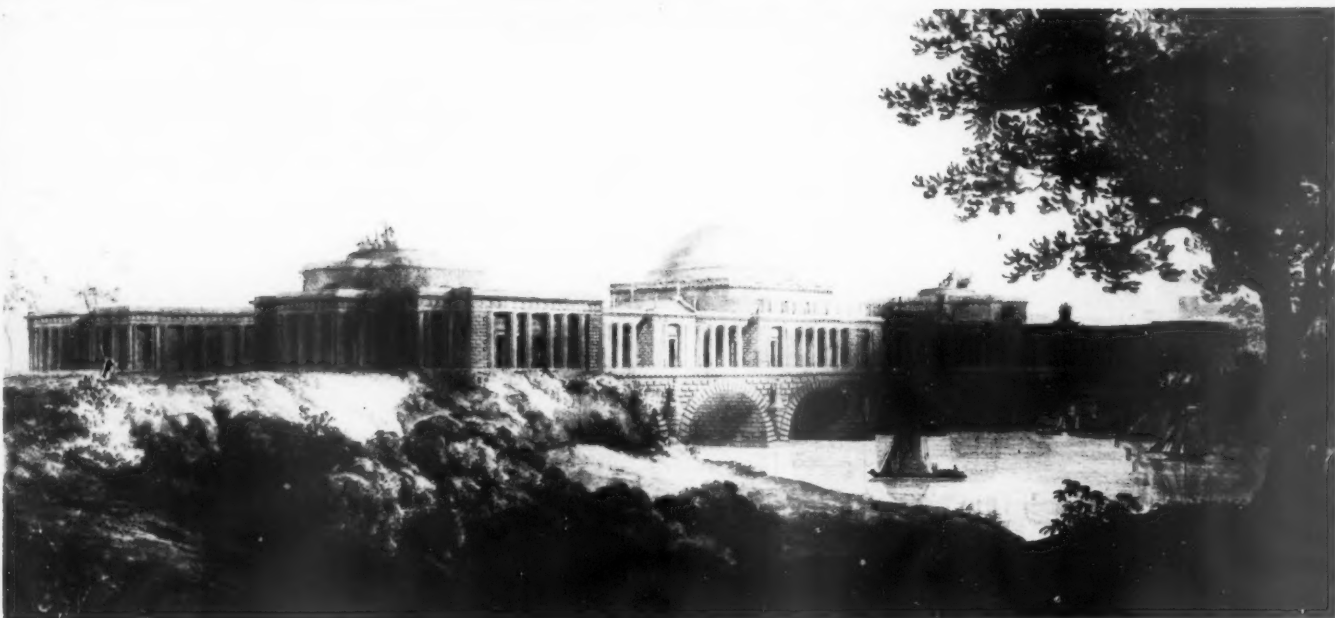


typical floor plan

33, the point-block with a terrace of shops and a cinema in the foreground.



33



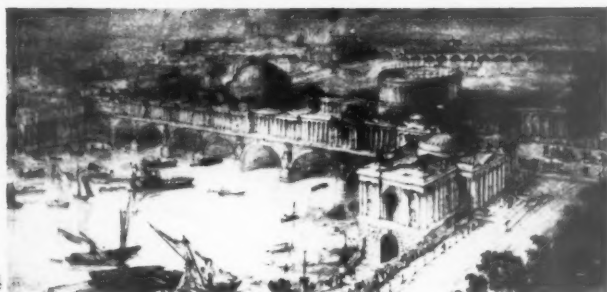
1



2



3



4

1, Soane's Greek Doric triumphal bridge design submitted to the Academy of Parma in 1779; he had visited Paestum earlier the same year. 2, a Corinthian version shown in the Royal Academy of 1799. 3, a perspective of the Parma design dated 1813, probably drawn by Basevi and used to illustrate Soane's Academy lectures. 4, a bird's-eye view of the Corinthian bridge spanning the Thames from Lambeth to Westminster, by J. M. Gandy. On the facing page, 5, a bridge design by G. B. Piranesi, engraved for *Opere Varie*, 1750.

SOANE'S DESIGNS FOR A TRIUMPHAL BRIDGE

Dorothy Stroud

9

No one who has more than a casual acquaintance with Sir John Soane's designs can fail to notice how often and how strongly his imagination was drawn to certain subjects—usually monumental in character, and beyond any hope of realization. Designs for a British Senate House, for a Royal Palace, and for a Grand Entrance to the Metropolis were three of the themes on which, during his long life, he based a number of imposing variations. But his favourite was the *Triumphal Bridge*, of which six framed versions adorn the walls of his Museum, while others, drawn by himself or redrawn by his pupils, are to be found in books and portfolios. The Bridge also features in a splendid fantasy in which all Soane's more important executed designs are grouped together with the pensive title 'Architectural visions in the gay morning of youth and dreams in the evening of life.' There is no doubt

that its link with his 'gay morning of youth' explains much of the fascination which the Bridge held for Soane. Moreover, through endeavouring to complete his first drawings for it, he refrained from joining two friends on a river expedition, and thereby escaped drowning when their boat met with disaster, an incident which he never ceased to remember.

During the 1770's Soane was working as a junior assistant in the office of Henry Holland, augmenting this practical experience by attending lectures at the Royal Academy Schools, and competing for that body's annual awards. On February 5, 1776, the President and Council of the Academy decided that the architectural subject for that year's Gold Medal should be 'a triumphal bridge with its plan, elevation and sections.' Soane, then aged twenty-three, resolved to compete. That he should look around for inspiration was

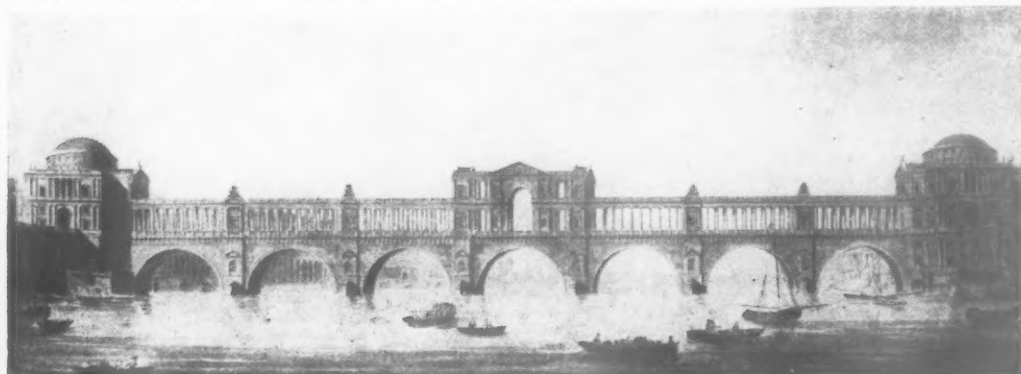
natural enough: where did he find it? Although he has left no comments of his own on this particular point, the resulting drawings point to three main sources—Thomas Sandby's bridge design of 1760, a published engraving of a bridge by G. B. Piranesi, and a book of designs by the French architect M. J. Peyre.

Thomas Sandby had been appointed Professor of Architecture to the Royal Academy at its foundation in 1768, and two years later began the series of six lectures which he was thereafter to deliver annually until his death. The sixth lecture was accompanied by the display of a large number of drawings, including Sandby's design for a 'Bridge of Magnificence.' This imposing structure of seven arches, with colonnades running its full length, was envisaged as spanning the Thames from Lambeth to Somerset House. In the

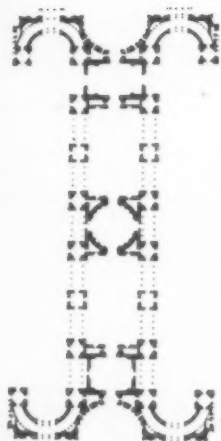
arched central feature of two storeys, and the domed terminal blocks, Sandby was clearly influenced by Piranesi's design of 1750, and it is not surprising to find that the latter's engraved works were in his library; a set, incidentally, which had originally been given by the Pope to the Duke of Gloucester. To delve into the origins of Piranesi's bridge would probably produce enough material for an article on its own, but one obvious prototype is to be found in Palladio's *Third Book of Architecture* where that author reconstructs the ancient *Ponte Elio* in Rome, with its loggias of bronze columns, statues, and many ornaments.

In addition to illustrating his lectures, Sandby's bridge was shown at the Academy Exhibition of 1781, where it aroused considerable interest. Upon Soane it made so deep and lasting an impression that thirty-six years later, when he had been appointed Professor of Architecture, he referred to it in his own addresses. 'Among the drawings with which my predecessor enriched his lectures,' he told his students, 'was a Design for a magnificent Bridge. . . . Recollecting the powerful impression the sight of that beautiful work produced on myself and on many of the young Artists of those days, I am happy in this opportunity of exhibiting a copy of the Drawing.'

Sandby's bridge and that engraved by Piranesi were, then, the two obvious models which Soane would study when embarking on his competition drawings in 1776, and on these he based his ideas for a continuous range of columns, punctuated with small pavilions. But neither the Sandby nor the Piranesi designs engendered those curious curved wings which appear at either end of



6, a Bridge of Magnificence, designed by Thomas Sandby, 1760.



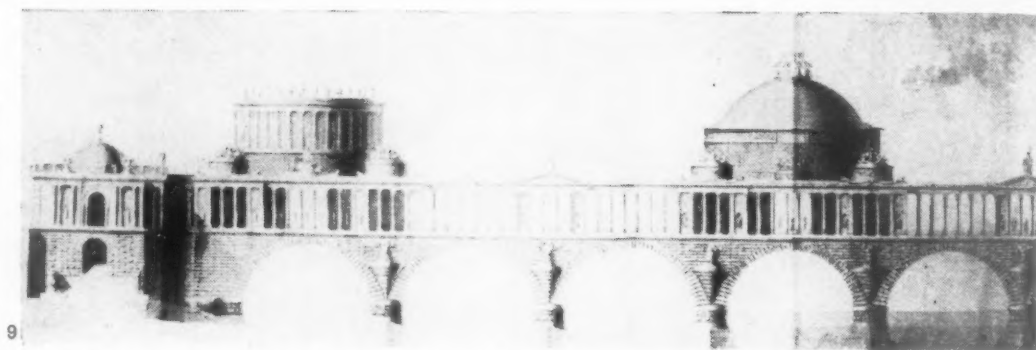
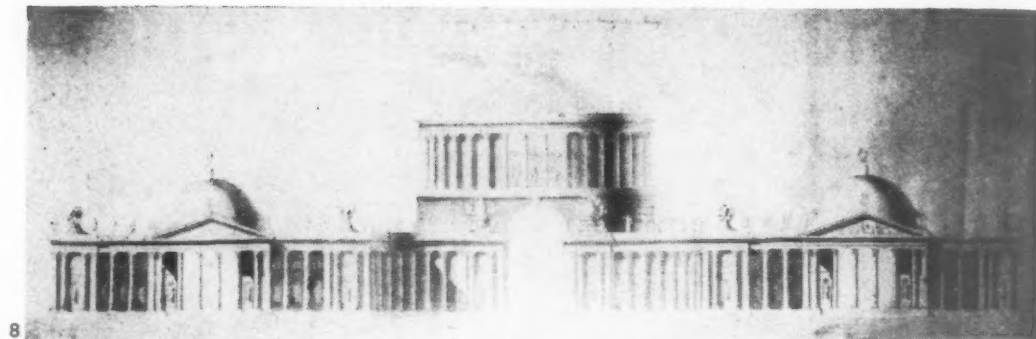
7, the plan,
8, frontal
elevation and
9, side
elevation of
Soane's
triumphal
bridge design
which won
the Royal
Academy's
Gold Medal
in 1770.

Soane's bridge, and which, in plan, seem to be hooking it to *terra firma*. For these, it would seem, he went to the illustrations of M. J. Peyre's *Oeuvres d'Architecture*, published in 1765. To Peyre's elevation for a corps de logis Soane is particularly indebted for the treatment of the approaches to his bridge.

When in due course his design appeared, it was envisaged as a composition of seven arches, with the colonnades already mentioned. But whereas Piranesi and Sandby gave their bridges a pedimented, two-storey, central feature, and placed large domed structures over the abutments, Soane emphasized the centre of his bridge with a 'pantheon'; and in addition to smaller domes over each of the four terminal wings he placed a high columned drum over the first and seventh arches—a treatment which in the light of experience he came to recognize as a serious error, and used as a warning to his Academy students. 'These three large features,' he told them, 'not assimilating with each other, nor sufficiently connected with the intermediate parts look more like so many distinct masses than one great building. The whole design thus becomes deficient in the Continuity and Harmony so happily preserved by Mr. Sandby.'

Fortunately for Soane, the assessors of 1776 were in a less critical mood. In their eyes the drawings possessed considerable merit, and Soane was duly awarded the Gold Medal. This was presented to him on December 7, the occasion of Sir Joshua Reynolds's Seventh Discourse, when the President gave high praise to his work. This initial success was soon followed by another, when Sir William Chambers, the Surveyor General, and Treasurer to the Academy, introduced Soane to George III, who nominated him for a travelling studentship with an allowance of £60 a year. The young architect set out on March 18, 1778, in Robert Brettingham's company, for two happy years of study in Italy.

Towards the end of his time abroad, Soane submitted drawings for a *Castello d'Acqua* to the Academy at Parma, and also prepared for that institution a copy of his Triumphal Bridge design; or, to be precise, another version. For, although the composition was the same as in his earlier essay, it now emerged not in Roman but in Greek Doric dress. This transformation can be accounted for by Soane's visit to Paestum, made at the beginning of 1779. From a small notebook which has survived it is evident that he was there in January of that year, and again on February 14 and 15, when he 'measured the three Temples.' Although he added in his notes that he thought the temples had 'all the



particulars of the Greek Doric, but not the elegance and taste,' there is no doubt that they made a profound impression on him. Not only the new Triumphal Bridge drawing, but his Canine Residence designed for the Bishop of Derry, show that for a time he was under the spell of Greek architecture, and he was keenly disappointed when plans for proceeding to Athens had to be abandoned.

In the Parma version of the Bridge design some of the superstructure is eliminated; the colonnaded drums are replaced by groups of statuary on low circular pedestals, and the central dome is flatter so that a more serene skyline is achieved. Moreover, there are five arches instead of seven, the weight of the buildings at either end resting on a solid base.

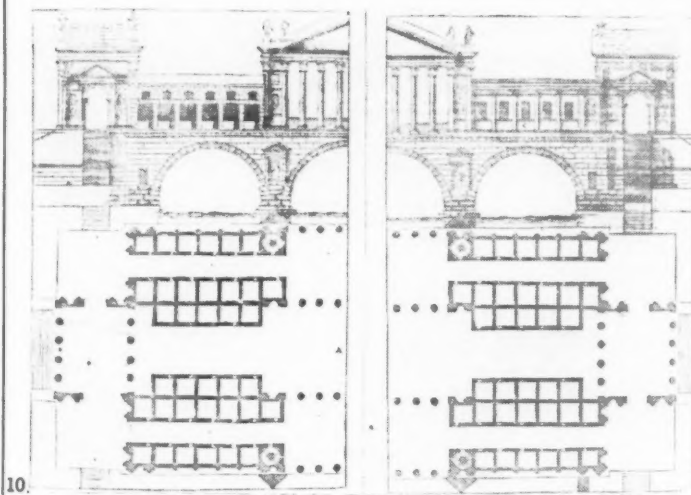
Twenty years later, Soane again fetched the Triumphal Bridge from his storehouse of ideas and sent drawings of both the Corinthian and the Greek Doric designs to the Royal Academy of 1799 (he was by now an Associate). Yet another version was exhibited in 1806, probably the oblique view seen through the columns of one of the approaches, now hanging in the Picture Room of his Museum. George Basevi, then one of his draughtsmen, is most likely to have drawn out the fine perspective of the Parma version dated 1813 for use as an illustration to Soane's Academy lectures. This was followed by a bird's-eye view by J. M. Gandy showing the bridge as it would appear if spanning the Thames from Lambeth to Westminster. Oddly enough, although Soane emphasized the defects of his early designs to his students, he did nothing to alter these in the later drawings. It was a case of 'do as I say, my boy, not as I do,' and even in the last representation, engraved for his privately printed *Memoirs* of 1835, he adhered to those faults which he had himself condemned.

There are few obvious connections between the Bridge designs and any of Soane's executed works except for one curious feature: in every version the space between each arch and its neighbour is occupied by a pedestal shaped like an inverted cone. In 1803 two of these strange objects were to materialize at the Bank of England,

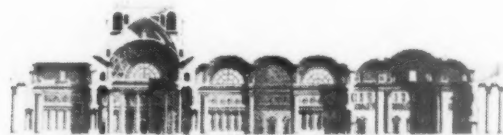
this time set between the arches which supported a loggia to the Governor's Court (now destroyed). They did not occur in any other of his works, and their source now seems as obscure as their function.

The Triumphal Bridge was the

first of Soane's architectural visions, and a bridge was to be one of his first commissions. Not a bridge of magnificence, but a single span of barely twenty yards over the river Wensum at Norwich. Such is the gulf between aspiration and attainment.



10.



11.

10, Palladio's reconstruction of the Ponte Elia, Rome, in his Third Book. 11, M. J. Peyre's corps de logis from his *Oeuvres d'Architecture*, 1765, almost certainly Soane's prototype for the semi-circular approaches to his bridge.

current architecture recent buildings of interest briefly illustrated



1, the paved terrace from the south; bedroom wing on the right. Trees are left, holly and right, oak.

HOUSE AT AKELEY, BUCKS

ARCHITECT, H. J. RICHARDS

The house is between Buckingham and Towcester, sited in a Rectory garden 150 ft. from the main road with an unobstructed south view across a valley. The need to keep the trees and have a paved terrace largely dictated the plan; all rooms communicate directly with the living area, avoiding corridors. The various areas have been defined by the floor finishes and ceiling colours and by changing levels. Two sliding glass panels each 8 ft. by 13 ft. enable the entire south side of the living or dining area to be opened to the terrace.

Walls are of cavity construction; the inner skin of dry plaster partitioning, the outer skin of silver grey facing bricks, local limestone and cedar wood. Floors are solid concrete finished with Hornton stone, plastic tiles and fitted carpets; the riser between the living area and hall is faced with coloured tiles. Roofs are of timber construction faced with stramit and three layers of patent roof finish with white spar chippings. Ceilings are finished with $\frac{3}{4}$ in. insulating boards, and with acoustic tiles over the music area. Plastering was omitted by using facing bricks and cedar wood internally; the dry partitions were wall-papered. Heating is by ducted hot air from the unit in the kitchen.





2, the house from the west, with kitchen in the centre. 3, the north-facing studio window with a beech tree in front of it; the rubble

limestone wall beyond is the back of the living room. 4, looking out of bedroom wing to the main entrance across the hall.

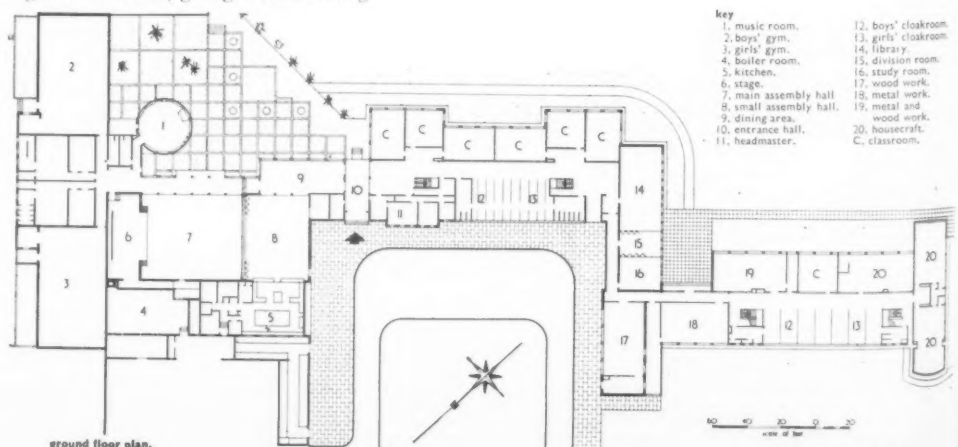
SCHOOL AT HARLOW NEW TOWN

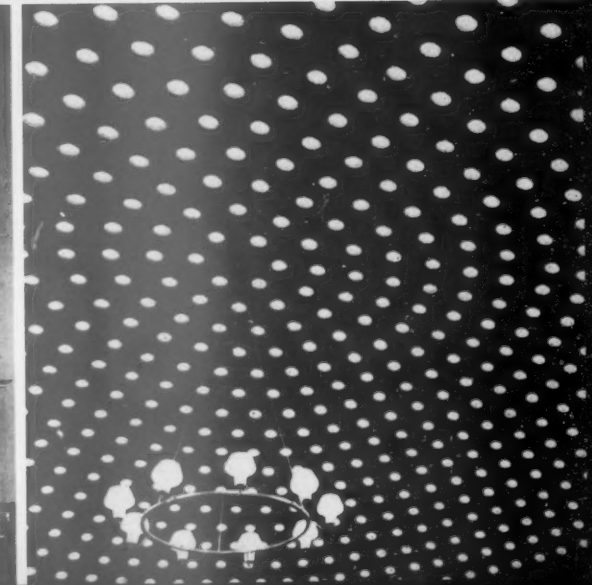
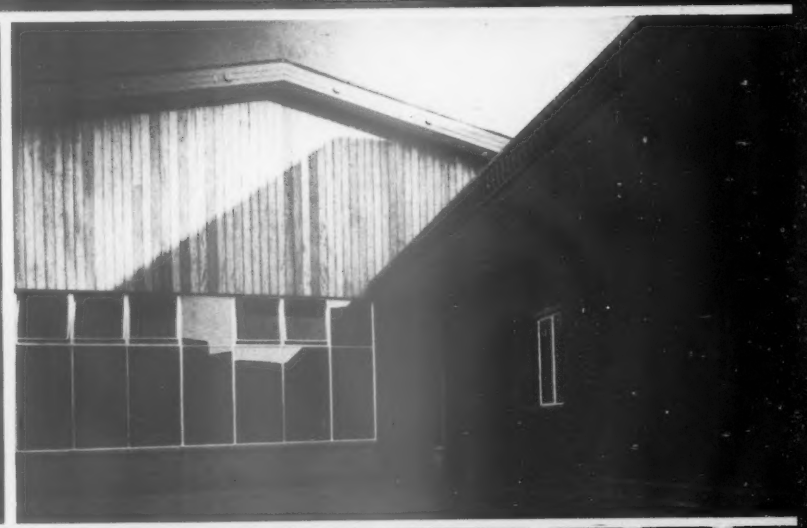
ARCHITECTS, HENING & CHITTY, in collaboration with the Essex County Architect; ARCHITECT-IN-CHARGE, MICHAEL G. MURRAY

This 1,024-place school in the Netteswell area of Harlow New Town is one of the first to combine the grammar and modern streams. The building is divided into three blocks—practical and science, classrooms, and gymnasiums and assembly halls. The area and entrance form one link and library and staff rooms another. Cross-ventilation to all classrooms was a major factor in planning the two teaching blocks, *vide* the cantilevered corridors in each block. Some sections are designed flexibly; e.g. the cloakroom space can suit variations in the numbers of boys or girls, and the dining space can be used for further classes or assembly purposes. Two assembly halls are provided, one opening into the other, giving a total seating of about 1,500. The house spotlights are concealed by flush trapdoors in the Hall ceilings when not in use, and the loudspeakers and heaters are recessed behind flush grills on the walls.

The building is steel-framed (on a 10 ft. grid) with pot floors and facing brick panels, though in the teaching blocks the remaining wall areas of the window walls are filled with timber cladding and tiles. The hall roof is copper covered. All finishes are especially durable; granwood for corridor floors, hardwood blocks in all teaching and assembly areas, and plastic glaze finish on walls. Inside, the music room is twelve-sided, and is constructed to minimize sound transmission. The roof is a 31 ft. diameter concrete dome 2½ in. thick, starred with 1,500 glass lenses.

opposite, 5, the western end of the school, with practical and science block in foreground. The first floor balcony belongs to the geography room. 6, biology laboratory on the second floor. 7, main entrance and end gable of small assembly hall. 8, the music room—circular outside, twelve-sided inside—covered with a concrete dome starred with 1,500 glass lenses, shown in 9.



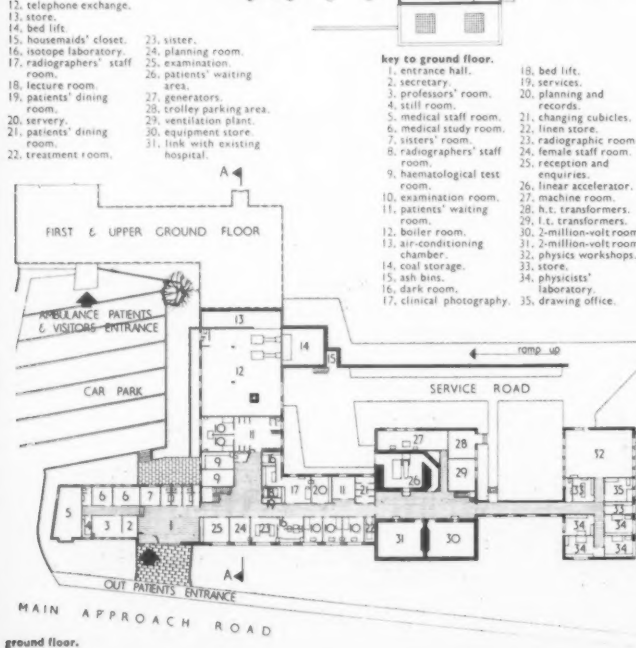


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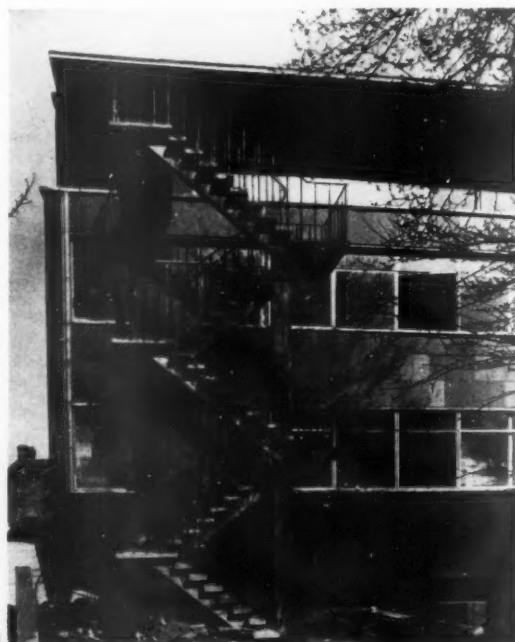


HOSPITAL EXTENSION IN EDINBURGH

ARCHITECT, JOHN HOLT

ARCHITECT-IN-CHARGE, WILLIAM WELLWOOD

The new radiotherapy building for the Western General Hospital, Edinburgh, is designed to accommodate about 100 cancer patients, a range of X-ray diagnostic and therapeutic treatment, an operating theatre for radium application, and research laboratories. The main ward block has 4 storeys and a ward plan of 4-bed wards on both sides of a corridor. This block has a reinforced concrete frame; the floors above and below the treatment level are solid reinforced concrete slabs, the remaining upper floors being hollow tile, set in reinforced concrete rib panels. Load-bearing cavity construction is only used in the outpatients' departments and workshops. The roof is of precast concrete slabs; the walls of the high voltage treatment block are 24 in. to 64 in. thick concrete. The spandrel panels of the main block are faced with Westmoreland green slate slabs and the lower walls are finished in plum-coloured facing bricks. The south gable wall of the block is finished with Blaxter stone slabs.



11

BOOKS

MORE ABOUT WREN

THE ARCHITECTURE OF SIR CHRISTOPHER WREN. By V. Fuerst. Lund Humphries, 63s.

WREN AND HIS PLACE IN EUROPEAN ARCHITECTURE. By E. Sekler. Faber, 63s.

'An architect ought, above all things, to be skilled in Perspective; for, everything that appears well in the Orthography, may not be good in the Model,; and everything that is good in the Model, may not be so when built.'

Sir Christopher Wren's statement (*Parentalia*, Tract I) must be well known to both the authors, for they have clearly devoted much time to an exhaustive scrutiny of Wren's writings and drawings. Only Dr. Sekler, however, appears to have realized that for Wren the final test of his work lay, not in its evolution but in its appearance. He therefore illustrates his book with a series of fine photographs, finely chosen (and also finely printed) to which he adds a considerable number of relevant drawings and engravings, both English and foreign, and many good plans. This is by far the most useful and intelligent collection of material on Wren which has yet appeared within the covers of a single book.

Mr. Fuerst, on the other hand, is so deeply concerned with 'the Orthography and the Model' that he does not think it necessary to use any photograph of an existing building. The exterior of St. Paul's appears only in an engraving in true elevation (a notably misleading form of representation); the executed design of Greenwich is not illustrated at all. No idea can therefore be obtained from this book of the quality of Wren's architecture: the one hundred and fifty-seven plates are entirely of drawings or engravings. But, unfortunately, owing to the method of reproduction, they give little idea of the widely varying quality of the originals. Wren's early autograph designs for the Pre-Fire Scheme for St. Paul's (No. 32) are drawn in a pale bistre with a very fine pen-line and pale blue wash, whereas the first Hampton Court designs (No. 90) are in pencil, but both look here as if they were drawn in Indian ink; while the pen and wash drawing for Greenwich (Fig. 107) is masked in a London fog! All this is the more strange since, judging from the title page, Mr. Fuerst's professional qualifications appear to be those of a photographer. In many cases there is no figure reference in the text, none of the plans have a scale, and the method of bleeding has left far too many pages without numbers. Moreover, since Mr. Fuerst is incapable of concise statement (on p. 61 he needs sixty-six words to say that most of Wren's ecclesiastical buildings are before 1688, and his secular buildings are later) the arrangement of two

columns of small print to a page makes his cumbersome sentences no easier to read.

It is, indeed extremely hard to know for whom this book was written. Its choice of illustration and its detailed analysis of drawings is only intelligible to scholars who are already familiar with and able to consult the much better reproductions in the Wren Society's volumes; and even they would need on occasions to turn to the photographs in Dr. Sekler's book. But if Mr. Fuerst is writing for scholars it is surprising that he should have given so much space to the rejection of views dating from the early nineteenth century onwards, to which no serious architectural historian would now give a moment's thought. On the other hand Mr. John Summerson's book on Wren, published in 1958, is not even included in the bibliography, and Mr. Howard Colvin's *Dictionary of British Architects* (1954) is not mentioned and does not seem to have been consulted. Moreover, though there can be no drawing by or attributed to Wren at which the author has not looked, he appears to be ignorant of other seventeenth century drawings. Had he looked at the Burlington-Devonshire Collection at the RIBA he would have known that the palace at Greenwich was not built for Charles I, since there are many dated drawings by John Webb of the mid-1660's; and the Chatsworth drawings for Whitehall Palace (many of which have been published) would have shown him that Wren's designs for Charles II and the smaller design for William III were based on Webb's post-Restoration projects. Many other errors could be listed, for instance: Gibbons (not Gibbon) was not 'Wren's Flemish collaborator,' but an Englishman born in Rotterdam, and the drawing for Queen Mary's monument made almost certainly by Gibbons the year after he had been created Master Sculptor to the Crown does not necessarily reveal anything about Wren's reaction to the Berninesque; Wren could easily have known of Vignola's design for the façade of the Gesù, for it was engraved by 1578; Serlio's book was not 'published in Venice, 1537-40'—only the third and fourth Books then appeared, the first, second and fifth Books were unpublished at Serlio's death in 1551; the title page of *Parentalia* states that it was written by Christopher and not Stephen Wren (but Mr. Fuerst's dislike of this work seems almost pathological).

These defects are all the more lamentable since there are sections of considerable interest in the book. Mr. Fuerst seems to prove beyond question that three and not only the two known models were made for St. Paul's, and though his suggestions as to the form of the lost model are highly controversial (and do not appear to be supported by the drawings he illustrates) this part of the book is new, and cannot be neglected by scholars. He has also something of interest to say about the plans and exterior elevations of the City Churches,

though he is strangely silent about the spatial qualities of the interiors. Indeed his neglect of the appearance of Wren's buildings is such that he does not even mention the raising of the screen walls above the aisles of St. Paul's which are so important a factor in the effect of the exterior.

Dr. Sekler's book is much shorter, and he makes it clearer in his introduction that much help was given to him in England. His main aim is to relate Wren's architecture to the European tradition, and though he is perhaps too much concerned with source-hunting he proves that more was borrowed from France than has always been supposed. His book, though a little dry, should provide a most useful survey of Wren's work for scholars outside this country.

Both authors are, in their different ways, concerned with the placing of Wren in the history of European architecture and with an attempt to assess the theoretical basis of his style. Both are, perhaps, slightly misled by their own Continental bias towards theory. The Royal Society background of empirical science which was the foundation of Wren's career produced an attitude to his art which was essentially flexible and experimental, and the quotation with which this review opens would seem to suggest that to Wren himself the result rather than the means, was of prime importance.

(Written July, 1960)

Margaret Whinney

COMPONENTS

BUILDING ELEMENTS. By Richard Llewellyn Davies and D. J. Petty. Architectural Press, 37s. 6d.

This is a book which promotes the subject of 'building construction' from the familiar repetition of traditional patterns to one requiring critical judgment—and how much more interesting it makes it.

It was inevitable that sooner or later books should be written which would embody the findings of the scientific investigations which have taken place in England during the last thirty years, and that they would replace the older books. The first important book of this kind appeared in August, 1938, *The Principles of Modern Building* by R. Fitzmaurice, but its scope was not in any sense comprehensive. It was limited to walls, partitions and chimneys, with the promise of further volumes which unfortunately never materialized. Its impact was nevertheless great and, with the Post War Building Studies, influenced and helped to improve construction in the post-war period. Together they imparted new knowledge about materials and created quantitative standards of performance. They were addressed in the main, however, to practising architects, and there remained a lack of any equivalent teaching books. The need for such books was recognized by the R.I.B.A. which through its Committee for Text and Reference Books initiated a series of three books to make good the deficiency. The first two of

these to appear, Handisyde's *Building Materials* and Cassie and Napper's *Structure in Building* (both also published by the Architectural Press), are already well known, and the volume under review is the third.

The aim of these three books was declared to be to 'cover the whole subject of building Construction in a Comprehensive Manner.' Perhaps the most difficult task fell to the authors of 'Building Elements,' since they had supposedly to express the whole of building Construction in relation to new scientific knowledge, in one volume. In fact the authors do not claim in this respect to do more than describe the principal 'elements' in common use; that is, walls, floors, roofs, flues and fireplaces, windows and doors, and to show in what way each fulfills the functions required of it. This they do very well, but to satisfy the aim that the three books should be *comprehensive* there should be another volume dealing with the problems of assembling the various elements to form complete buildings.

The descriptions of the elements comprise Part 2 of the book; Part 1 deals with the functional requirements of these elements, under the headings of weather exclusion, thermal insulation, sound insulation and fire protection; also design and expression. Design and expression are not normally dealt with in a book on construction, but, brief as is the summary given here, it usefully reminds us that for a building to have a particular character is as much a requirement as that it should withstand the weather, and that the architect has it in his power to choose between one form of construction or another for its appearance as well as for its other qualities.

Being more than a mere 'pattern book,' this book encourages the student to assess the functional requirements of each element in a particular building by reference to the information given in the first part, and then to choose from the second part the kind of construction which matches these requirements. This is such an ambitious undertaking that it is not surprising that there are gaps in the information. Indeed, it is difficult to see how any single book could describe and illustrate in sufficient detail to be useful the enormous number of permutations of materials that are possible to 'make up walls, floors, roofs, etc.' It would furthermore be almost impossible to include all the specialized products such as curtain walling, roof decking, patent glazing and so on, which today are increasingly used in building and the designs of which are constantly being changed.

The book has a number of photographs and there are many line drawings, most of them illustrating some point of detail: the drawings do not, however, show the elements in their contexts in buildings. This the student must still learn from observation of actual buildings, from lectures, or, failing these, from other books. Nevertheless, this is the only book which will give him a critical evaluation of the alternative forms of construction which are open to him to use. It is a book which can be read with interest, it does not underestimate students' intelligence, and it is authoritative.

John Eastwick-Field

SOUTH AMERICA BUILDS

LATIN AMERICAN ARCHITECTURE SINCE 1945. By Henry-Russell Hitchcock. New York, The Museum of Modern Art, \$8.50.

Professor Hitchcock's new book is not an extended survey of the new architecture of what he terms 'a continent and a half,' nor is it a definitive essay upon the nature of that architecture. It is one of those catalogues *de luxe*, neither one thing nor the other, with which the Museum of Modern Art persistently tantalizes the enquiring scholar, an occasional work to accompany one of the Museum's exhibitions.

Having said so much, it is imperative that one should also say at once that this is a very handsome book in its format and photographs; a very salutary book, in that it shifts attention from too exclusive a concentration on Brazil and Mexico; a very well-informed book, in that it is based upon an extended tour of Latin America made by Professor Hitchcock—and for this reason also a very Hitchcockian book, since both the selection and the evaluation of the buildings illustrated depends upon his own personal observations made on the spot. If one were to treat it as a permanent record of an illustrated lecture given by him, that would identify both its flavour and its value. A long lecture admittedly, but so packed with illustrations, and revealing comments, with well-known buildings (like O'Gorman's library) revalued, inaccessible ones (like Le Corbusier's Curuchet House) displayed, and unknown ones (like the Edificio Polar) discovered, that one would gladly go to hear it a second time, and almost equally gladly pay the usual sky-high Museum of Modern Art price to possess it in letter-press.

Michel Santiago

MOORE: 1949-54

HENRY MOORE: Volume 2. With an Introduction by Herbert Read. Lund Humphries. £3 3s.

Starting with the magnificent 'Family Group' commissioned by Barclay School, Stevenage, and completed in 1949, this volume gives a full photographic record of Henry Moore's work up to 1954. As almost all the photographs were taken by the sculptor himself they give an authoritative view of his work, which a professional photographer might very well miss. Compared to the period covered by the first volume, the years represented seem to be marked by various attempts to find a starting point from which to develop something of the stature of the Northampton 'Madonna and Child' or the 'Three Standing Figures' of Battersea. But such works as the 'Rocking Chairs,' which are hardly more than ingenious ways of solving the problem of mobility in sculpture, the very open and confusingly bony form of the 1951 South Bank 'Reclining Figure' with its legs awkwardly cut short, even the life-size 'King and Queen,' which in spite of its remote presence has several weak sculptural views (particularly the back), and the completely impassive Time-Life 'Screen' in which it is so difficult to feel that a sculptor has been at work, are all surprisingly different in approach and none comes up to the masterpieces of the earlier years. On the other hand,

the 'Draped Figure,' also done for the Time-Life Building, but for which the architectural problem was not so considerable, is one of Moore's most moving pieces. This very human figure has, like the companion 'Draped Torso,' a wrinkled surface which expresses the contours of the bulky form beneath, and is at the same time distinct from it. Both the massiveness and the use of drapery are plainly Greek in inspiration (after Moore's first visit to that country in the previous year, 1951), although the 'Leaf Figures' done at the same time have a somewhat similar creased surface. It is these draped pieces which stand out as an innovation of real possibilities after a number of rather tentative starts. The other outstanding work of the years covered in this interim report is the series of 'Internal and External Forms' embodying a tender and particularly contemporary image of a figure sheltering within a cocoon-shaped case.

John Curtis

Books Received

ANCIENT MONUMENTS OPEN TO THE PUBLIC. Country Life. 7s. 6d.
STUDIES IN ARCHITECTURAL HISTORY, Vol. II. Ed. Wm. A. Singleton. St. Anthony's Press. 17s. 6d.
LICHT ARCHITEKTUR. By Walter Köhler.
FARM BUILDINGS, CONVERSIONS AND IMPROVEMENTS. By W. G. Benoy, Crosby Lockwood. 28s.
DECORATIVE ART, 1954-1957. Studio. 35s.
LA PLUS GRANDE AVENTURE DU MONDE. By François Collin. Archaud. 4,500 frs.
BEN NICHOLSON, Vol. II (works since 1948). Intro. by Herbert Read. Lund Humphries. 3 gns.
PATTERN AND TEXTURE. By J. A. Dunkin Wedd. Studio. 25s.
SCHOOL PLANNING AND BUILDING HANDBOOK. By Engelhardt and Leggett. F. W. Dodge. \$12.75.
ERECTION OF CONSTRUCTIONAL STEELWORK. By Thomas Barron. Iliffe. 15s.

EXHIBITIONS

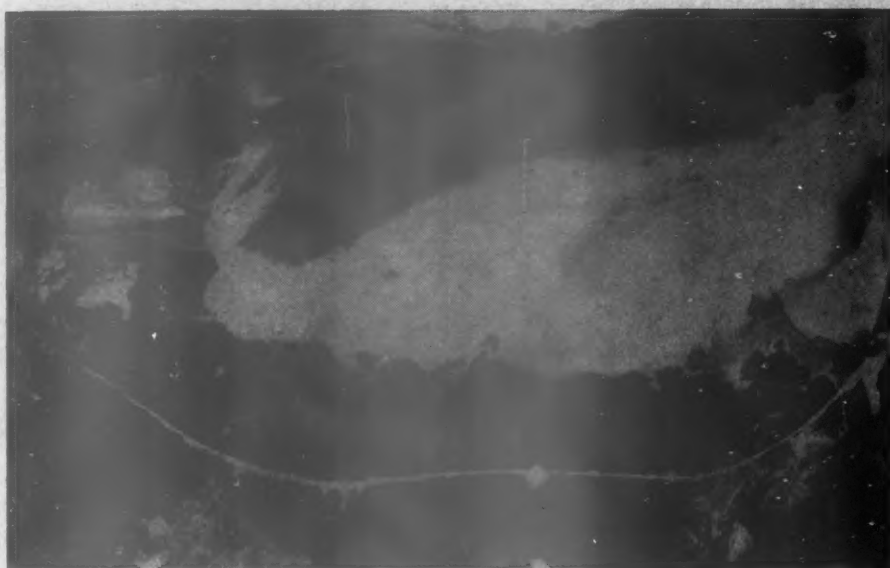
Nearly fifty years ago, a German critic declared that Monet's last series of lily pools, painted at Giverny, reduced the impressionist principle to absurdity, and as recently as 1946, John Rewald, in his *History of Impressionism*, quoted with approval Guil-



laumin's objection to their 'total lack of construction,' and added by way of explanation that Monet's eyes, 'straining to observe minute transformations, were apt to lose the perception of the whole.' The first two statements are understandable and can be turned into compliments, but Rewald's remark has become totally inexplicable because we now see that Monet's sheets of space flickering with light identify the total animation of the picture surface as the final objective of painting.

It's as well to remember, however, that few of us were in a position to challenge Rewald's criticism of the late Monets before Jackson Pollock's focusless canvases conceptualized the fruits of Monet's staring.

After the power and authority of Pollock's suave tumults of light and space, it was only to be expected that much of what



followed would be anti-climax, but there have been few serious attempts to consolidate his victory, and it would seem that his brilliant clarification of the problem of what Clement Greenberg calls 'maximum saturation' has had less influence on other painters than the rumour of his violence and anarchy, and a large proportion of the pictures made under the name of tachism or action painting can be called documents of the desire to be a rebel without a cause. This was particularly evident in the work of several painters who contributed to the ICA exhibition called 'Statements,' which might have been more suitably named 'Confusions.' One end of the show, with an elegant Pasmore construction as its centerpiece, demonstrated the simple charms of elementary geometry: the other end was devoted to an arbitrary selection from English and Cornish attempts to make a contribution to the art of the impassioned brush stroke. The best things in this section were a luxuriously painted Kinley containing a dilatorily conceived nude which had less 'presence' than the paint, and one of those sultry masses of pigment into which Alan Davie, fishing for revelations, lowers a thick black line and brings up disappointing catches of banal symbols. There was also a professional-looking tachist painting by Rodrigo Moynihan, 1, which nevertheless conveyed the impression that the concentration of strokes down the middle covered one of his portraits. Among the least satisfactory works were passionless pastiches of Franz Klein by two painters who are so remote from the spirit of that remarkable painter that they could have been pastiches of Robert Motherwell's pastiches of Klein. Another and somewhat different effect of double-pastiche was obtained in a canvas which, before being crossed out by sweeps of dark grey paint, appears to have been a pastiche

of Sam Francis: it was understandable that the artist should want to cross it out, but it was evident that he was not in a temper when he defaced it and could only simulate 'angry' brush strokes by doing a pastiche of Soulages.

Lawrence Alloway, defending an exhibition at Arthur Tooth & Sons of the kind of painting that some of the ICA exhibitors would like to be able to emulate, implied that the kind of painting achieved by Monet in one way and Pollock in another—the kind, that is, which maintains an even fire from edge to edge of the canvas—represents an extreme situation which cannot be kept up. Yet Sam Francis, working, it is true, at a very much lower temperature and without embarking upon the 'co-ordination in separation' of multiple layers of space, managed by reason of the purity of his vision and the subtlety of his understanding of the principle of the total animation of the picture surface, to dominate the show at Tooth's, in spite of





the fact that his four competitors—Jean Dubuffet, Jean-Paul Riopelle, Karel Appel and Paul Jenkins—gave a more demonstrative display of vitality and virtuosity. Earlier works by Francis have seemed to me to be lovely in colour but somewhat opaque and impenetrable; but the two large oils at Tooth's trapped light and space, and the clean, firm turns of the brush, the trickles from the thin, wet paint groping through the surface like the roots of Monet's lily-pads, and the pools of lighter colour like a thinning of the clouds which presages golden shafts of sunlight, gave them a quality which makes him the Mallarmé of painters, 2.

I do not find that the imagery of Appel or Jenkins is of much interest. They are better employed when slapping the paint down than when searching like children staring into a coal fire for faces and landscapes in the wake of their brush-strokes. Appel sees faces, and is an incipient expressionist, 3; Jenkins sees fantastic landscapes, and is an incipient surrealist. The yawning gap in the middle of his 'Estuary,' 4, discloses an insensitiveness to the picture surface which is quite inexplicable in an artist connected with action painting.

After showing so much concern with oils, to attempt to do more than nod my approval of the fine selection of modern drawings recently shown at the Hanover Gallery would be rather like abandoning a plump girl friend to follow a thin one, and Picasso's cubist drawing, 5, has to assume the role here of someone walking rapidly in the opposite direction on the other side of the street.

Hubert Dalwood's recent bronze, 6, on the other hand, might serve as a personi-

fication of the art of the overloaded brush-stroke. If a short, heavy girl with a large, protruding stomach should happen to be chosen as Miss Universe in 1958, it will be a triumph indeed for those who claim that art influences the people, and Dalwood's solemn series of variations on a paleolithic theme will be highly prized by the Musée d'Homme 20,000 years hence: but I must confess that although I found Dalwood's exhibition at Gimpel's extremely entertaining, it struck me as a kind of mirage, and gave me the idea that Dalwood is probably dreamy, sensitive and slightly built.

Robert Melville

HISTORY

RICKMAN AND THE FITZWILLIAM COMPETITION*

'Buildings of every description altered into Gothic or Grecian' ran one of the mock advertisements which Pugin included in his 'contrasts' of 1836 as a comment on the eclecticism of the time. Architecture was entering a period when the selection of a style for new buildings was more a matter of arbitrary choice than it had ever been before. The limitations of an existing and still lively tradition no longer held good, while the great theorists and apologists of the nineteenth century had not yet established new principles to replace them. The Gothic revival was gathering momentum, but classicism was by no means exhausted; meanwhile considerations of ethics, convenience of efficiency gained little weight. Circumstances combined, therefore, to leave the architect unusually free to please himself and to exploit his knowledge of the historical styles.

Designs prepared for competitions illustrate the phenomenon particularly well—call it either architectural versatility or vacillation—for these show how even a slight building could be conceived in two or even three distinct guises. The drawings illustrated here must be among the earliest to demonstrate this architectural dilemma. They were submitted in the competition of 1884 for the Fitzwilliam Museum in Cambridge, and are all the more remarkable because they are all the work of an early champion of Gothic, Thomas Rickman. Today he is remembered chiefly as an historian of the Gothic, and his prolific architectural work was also chiefly in that style, his best known building being the new Court of St. John's College, Cambridge. However, his career had begun in the neo-classical years before 1820 (actually with a

design for his sister's sweet-shop based on the choragic monument of Thrasyllos) and throughout his life he found occasional inspiration in Greece and Rome.

The Fitzwilliam Museum drawings are not the first instance of his providing alternatives for the same building. In 1823 he made both Gothic and classical designs for a church at Dale End in Birmingham, and later, for another Cambridge competition—that for the University library of 1829—he again submitted designs in alternative styles. Nor was he the only competitor to do so. Cockerell sent in two, and so (according to the entry in Rickman's diary for December 10, 1829) did Decimus Burton, who offered 'a jumble of bad Gothic and a poor tame Roman one.'

In the Museum competition Rickman was one of four architects to submit three designs each, while one—Vulliamy—sent in four. Entrants were surprisingly unrestricted by the conditions of the competition, for 'no precise instructions, as in the case of the Library, were drawn up, the style, the arrangement, and the extent, of the proposed buildings being left to the judgement of the competitors.'

Some more emphatic reminder that the building was to provide for the display of pictures and the storage of books might in Rickman's case at least have been timely, for both Gothic and classical 'Interiors of the Library' are innocent of bookshelves, and the attenuated Gothic tower is hardly adapted for use as a Museum.

Unfortunately the plans themselves do not survive, but the perspective drawings at the Library of the R.I.B.A. give a remarkable impression of Rickman's three conceptions of the building; the Gothic one is as romantic and picturesque as anything since Fonthill. It stands between the flimsy, meagre Gothic of the earliest revival and the more robust—and often less delicate or sensitive—products of the Victorian era. The exploitation of an open timber roof to such effect was probably unprecedented in the revival. Plaster or occasionally stone vaulting had been most usual. The classical versions are both undeniably impressive, particularly the third design, with its magnificent rotunda. There seems to be no precedent for the use of a feature of this kind without a surmounting dome, or at least a conical roof, either in ancient or in Renaissance architecture. For structural reasons alone such a roof is preferable, and Rickman did not dispense with it, but his dome is only visible from inside.

* Willis and Clark 'Architectural History of the University of Cambridge,' 1886.

The three alternative designs submitted by Thomas Rickman (a notable champion of Gothic and the designer of the new court at St. John's College, Cambridge) in the Fitzwilliam Museum Competition of 1884.

* This article is based on a thesis presented at Cambridge University. Neither the drawings nor the quotations from Rickman have been published before.

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Fitzwilliam Museum



design 1



design 2



design 3

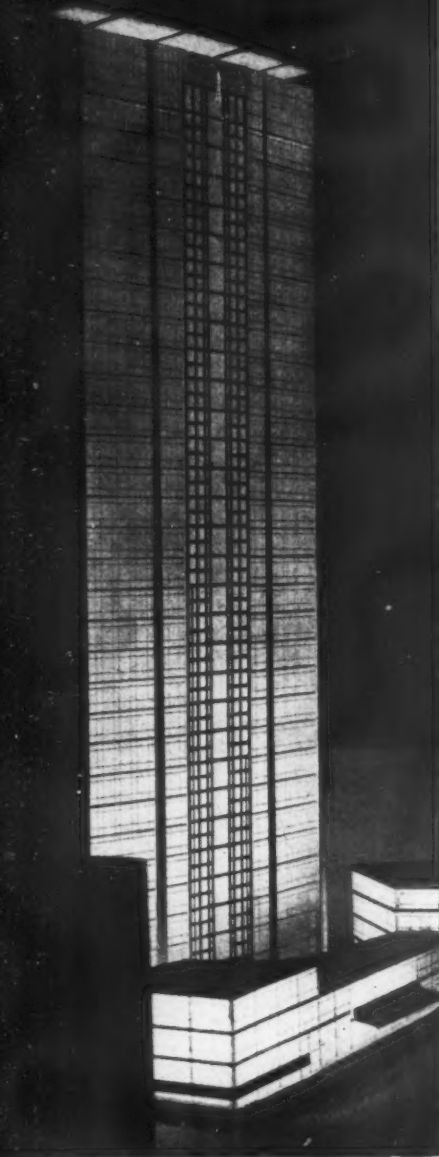
It is doubtful if Rickman—then elderly and often ill—made the drawings himself; he was never much of a draughtsman and his office was well staffed at the time with J. A. Bell, recently returned from Rome, in charge. However, Rickman had no partner in 1834 who could share the credit for these designs; they are certainly his achievement. Baseri's winning design, which stands today, is too much of a success to be regretted; but among his rivals Rickman should be remembered as the author of designs like these rather than the Commissioners' Churches which, unfortunately, formed the bulk of his work. They prove him not only versatile but an architect of imagination.

Ann James

PROPRIETY AT PERTH WATERWORKS

In 1832, the *Perth Water Commissioners* were confronted with the curious situation of providing a water supply for the town and, in doing so, of retaining the approval of the townspeople by showing a proper respect for their dead. Adam Anderson, LL.D., F.R.S.L. and E., Rector of Perth Academy, asked to submit a scheme for the new waterworks, accepted the commission and gave his clients at first, as he called it, 'A plain building.' What transpired is best described by



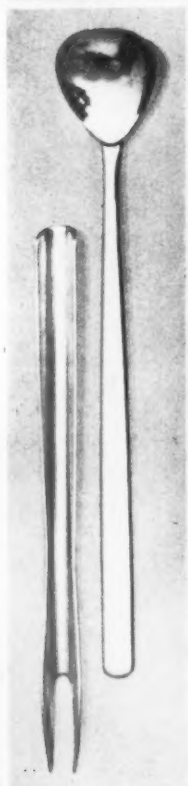
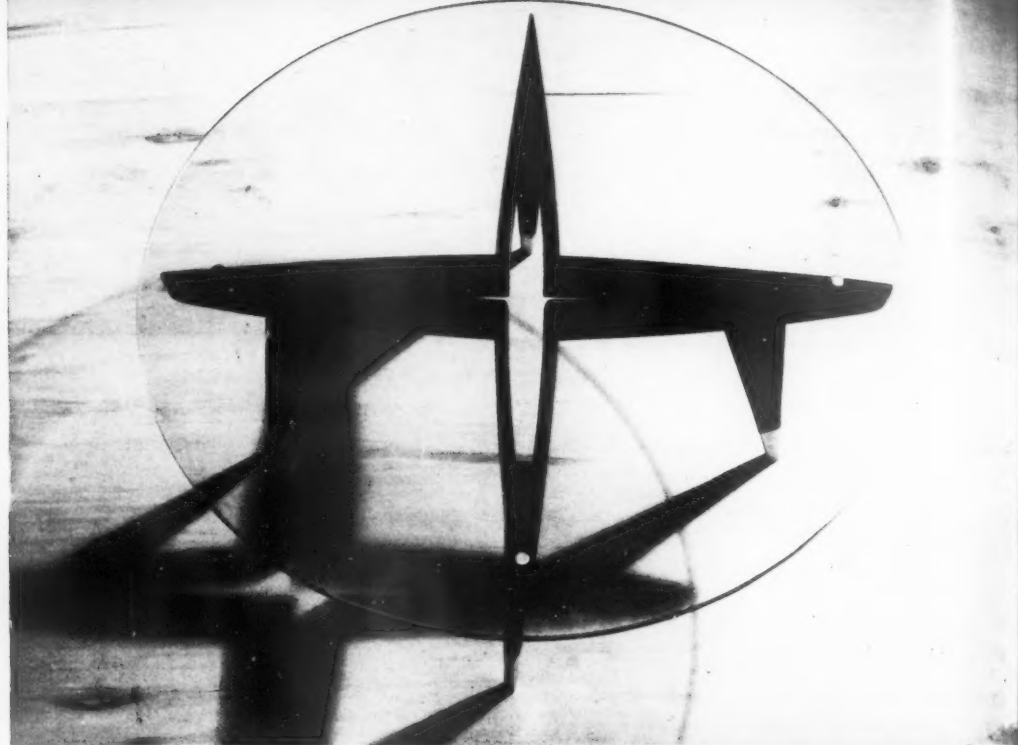


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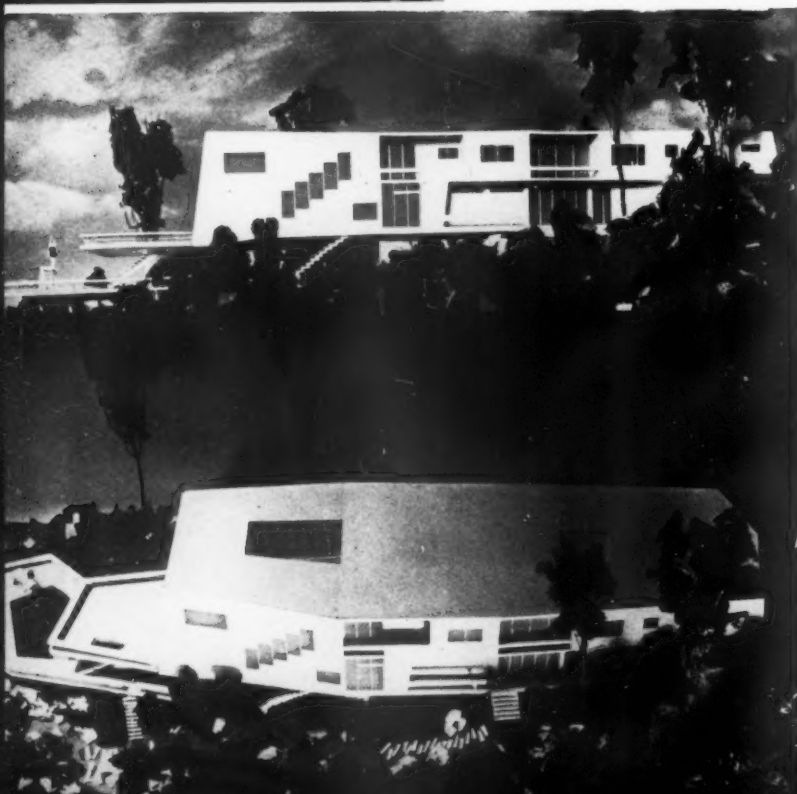
uomo universale

The enormous range of Gio Ponti, the Italian designer, gives him as much right as any living architect to the title of Universal Man. Here on this page are individual pieces of furniture, a table, 2, and a chair, 3, both very characteristic of his style; furnishings ranging from cutlery, 4, to ship interiors, 5; and current architectural projects—a house in Caracas, 6, and the Pirelli Tower in Milan (in collaboration with Nervi and others), none in its final form, 7.

7



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3



quoting his own 'Report to the Commissioners' dated November 24, 1834:

'As the site of the Reservoir was originally proposed to be in one of the Coal Yards, adjoining the Grey Friars Burying Ground, the Masonry for supporting the Tank, as well as the Tank itself, was intended to be of the plainest description; and the requisite plans were accordingly completed, in conformity with that intention. But some scruples having arisen in the public mind respecting the propriety of placing the Receiving Wells so near the mansions of the dead, the Commissioners, with a proper deference to the feelings of Inhabitants, endeavoured to find a less exceptional situation, and ultimately succeeded in obtaining from the Magistrates, the piece of Ground on which the Reservoir is erected. But as they were of opinion that the more conspicuous situation, in which that structure was now to be placed, demanded a more ornamental style of architecture than the plain building, for the purpose, which I had previously designed and sketched, I furnished a plan of an erection in the Doric order, which was agreed to be adopted. In consequence, however, of this alteration in the architectural character of the edifice for supporting the Tank, it became necessary to adapt the form and ornaments of the Tank itself to the Building of which it was to constitute an essential part; and I accordingly recommended to the Commissioners to construct the Tank with its Dome, of Cast-iron, in the Ionic Order, having the frieze adorned with the City Arms. Of the entire structure I trust I may be permitted to say, that while Utility was the principal object I had in view, in every part of the structure, the ornaments and proportions of the various parts of it will be found to be in strict accordance with the most approved models, in similar erections.'

Thus the Scottish ingrained reverence for burying grounds led to the City of Perth's acquiring an interesting and unusual group of buildings for its waterworks. The main part consists of a pilastered rotunda built of ashlar and surmounted by a richly ornamented drum and dome, 1 and 2. That the superstructure which formed the reservoir is constructed of cast iron is not readily detected at street level, so delicate is the detailing of the work. Of the rotunda, and in particular, of the



2

cistern which measures 42 feet in diameter and 31½ feet from the floor to the top of the dome, Dr. Anderson writes:

'The immense weight which the edifice for supporting the cistern was designed to bear, amounting upwards to 900 tons; and the great height to which the Chimney of the Engine House required to be carried [110 feet] rendered

it absolutely necessary to secure both from the risk of the slightest yielding of the masonry; and I have now much satisfaction in reporting that from the precautions that were employed, to obtain a proper foundation, in neither of these Buildings has the slightest crack or flaw been hitherto perceived. . . . With regard to the Cast Iron Cistern, it may be sufficient to state that the structure, is, in every respect conformable to the specifications; and, that in point of workmanship, and the execution of the architectural ornaments, it is not surpassed by any thing of a similar nature in this country. The style in which it has been finished, is highly creditable to the Dundee Foundry Co., and more especially to Mr. Stirling, their Manager, to whose ingenuity and professional skill, I have much pleasure in bearing my humble testimony.'

Dr. Anderson's pride in his work was justified, as the buildings, though slightly altered, are still in use to-day. After 1862, when a new reservoir was constructed on more elevated ground to the west of the city, the internal masonry of the Rotunda or 'Round House' was removed along with the cistern floor, and the space thus provided, became part of the Pump Room.

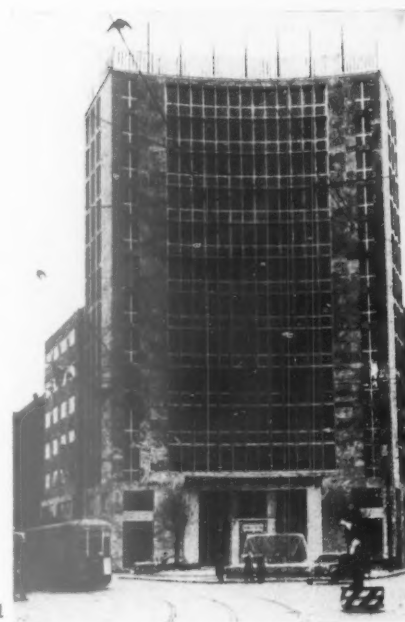
'*Aquam Igne et Aqua Haurio*.' Such was the proud statement incised on the Rotunda in 1832. There is every reason to believe that the Council of the City of Perth will take steps to ensure that its veracity will endure. Situated, as the waterworks are, on a commanding site on the banks of the River Tay, overlooking the South Inch, one of the City's several extensive public open spaces, they are a gracious reminder of how a past age tried to solve the ever-present problem of amenity and function.

R. J. and A. S. Naismith

DESIGNER

UOMO UNIVERSALE

The current exhibition of work by Gio Ponti at Liberty's emphasises the unusually wide scope of his practice as a designer. While many architects feel that they could design almost anything if they were given a chance, Ponti has, in fact, designed almost everything that can be drawn out on paper in plan, section and elevation, and—in addition—is also directing editor of *Domus*. His pre-war reputation depended on such works in architecture as his famous Montecatini building in Milan, 1, but after the war, in the period when the Anglo-Saxon world was beginning to re-discover Italian Modern, he featured, with Carlo Mollino, as one of the stars of the new Italian furniture, with its curved and tapered forms, its brass-ferruled legs, 2, or with bold, exaggerated polygonal forms, and equally bold patterns, 3. His other work in furnishing ranges—in scale, not quality—down to cutlery, 4, and up to large-scale interiors for ships such as the



1

Giulio Cesare, 5. Nevertheless his architectural career continues, and among projects he has currently in hand are a house in Caracas, 6, which exemplifies his present tendency toward semi-regular polygonal plans and canted walls, and the Pirelli office block in Milan, 7, a design that is now undergoing extensive revision. Such extreme generalization in design, though it fulfils widely-held Modern Movement tenets against specialization, is unequalled at present outside the work of Alvar Aalto, but Ponti, of course, inherits a native Italian tradition of the *Uomo Universale*, the designer whose talent embraces all branches of design. Q.S.C.

COUNTER-ATTACK

Ever since the publication of *Outrage* there has been a steady flow of letters asking for help. This year, after *Counter Attack* had proved that there were solutions to what people often wrote off as insoluble, the flow is getting to be a torrent. The REVIEW can no longer simply reply with encouraging words and nothing else, and is therefore publishing in *Miscellany* the most urgent and distressing of these cases as news items. They show that outrage is continuing unabated, despite attempts to pooh-pooh the whole idea by those most concerned; but public opinion has now reached boiling-point, and few outragers can now hope to get away scot-free. In each case we are publishing constructive suggestions together with details of the outrage; and some of the

items are not outrages at all but ideas called up by reports of future development while there is still time to influence it. We will also include examples of planning ideas from home and abroad, and examples of good planning or of outrages combated.

1. Uxbridge Market Hall, Middlesex.

The Borough Council propose demolishing the late eighteenth-century market hall—jammed up in front of the church on a unique island site in the middle of the town—to 'widen the footpath and lay out the remainder as an ornamental garden.' This is absurd—the copybook case of a projected town improvement putting an end to the town centre. What Uxbridge needs is not less market space but more (other suburban market stalls, like Kingston, do a roaring trade) and a scheme for this will be given in a later issue of the REVIEW. But in any case the market hall must be preserved.

2. Kew Green, Surrey.

Concrete lamp standards are replacing the Victorian standards on Kew Green: the photograph, 1, shows the very moment of outrage. Why? There is no through traffic here, and the old standards could be converted to fluorescent lighting if need be. At Strand-on-the-Green, Chiswick, this has just been done; conversion costs £18, new lamps cost £22. Is it just another case of slavish adherence to the book of rules?—with nobody having the elementary common sense to see that Kew Green is worth more to the borough (Richmond) than bureaucratic accuracy.



3. Edmondbyers, Co. Durham.

Sunderland and S. Shields Water Company are said to have rejected the county planner's suggestion that a landscape consultant be used for the proposed reservoir between Edmondbyers and Blanchland. The area is both beautiful in itself and a vital breathing space for Tyneside. It could be enhanced by a well landscaped reservoir; but it could be ruined by a cumbersome Leviathan with imported municipal detailing.

4. Penrith, Cumberland. This is a photograph of a newly completed U.D.C. housing estate on a hilltop site near the town, 2. It is hideous, and hideously visible from the town itself



and from the countryside around. A close up, 3, shows the appalling frame two of the houses make for an existing Gothick farmhouse, Scaws farm. There are far better estates near at hand at Ambleside or in the North Riding. Why wasn't their example followed?

5. Portsmouth, Hants. The City Council propose big boundary extensions, including 1,750 acres of unspoilt countryside around Droxford. This can only be for housing—there is no sense in taking over the land otherwise—so it looks as though Portsmouth doesn't believe in Green Belts. That is evident from the quality of the post-war housing, lapping the south slopes of

Portsmouth like a weary flood, and the decentralization beyond Havant, with the resulting traffic congestion along the one road back into Portsmouth. Portsmouth is a natural boundary which is still intact north-west of Portsmouth and which must not be leaped, and the way out of Portsmouth's difficulties—if they are really genuine—is through the Town Development Act. The boundary proposals are still tentative and are to come before the Boundaries Commission, but now is the time to protest.

6. Whitehall S.W.1. A recent Ministry of Housing circular urges the retention and re-use of temporary prefabs, saying complacently that 'most of them can continue to provide very useful accommodation for a good many years.' This, of course, breaks the promise that they were to last for ten years only, but what is worse is the way in which the Ministry is drifting along where it ought to lead. Obviously some prefabs will have to stay until permanent houses are built, but the proper attitude is to acknowledge the fact with regret, not to welcome it—and then to give as many examples as possible of what can be done with prefabs (as at Canterbury, for example) by colour washing and landscaping. To approve of their re-use is just adding one more straw to the load on the backs of the long-suffering local planners; in fact counties which are prepared to do some real planning, like Kent, have already officially discouraged this. The relevant phrase in the Ministry circular, saying 'with care in grouping and layout, there will be many sites where no objection need be taken to these houses,' could well be an epitaph for all the countryside lost since the war through lack of visual thinking.

Planners' Case-book: Pontoise, Ile-de-France.

A new roundabout, made up of a winking light set flush with the ground, 4. It has obvious applications where the traffic is light or has been pre-directed already; the English solution is usually a tiny island and four Keep Lefts, shoulder to shoulder.



PRINCETOWN HOUSING

In some cases the genius loci is a matter for argument: in others there may only be one type of solution for a given bit of 'development' if it isn't to make nonsense of the site. The clearest case of this is building in a wild area, where one false note will stick in the mind even when it is far out of sight.

That is why the fate of Woodville Terrace at Princetown is so much more than a local affair. The terrace is Dartmoor granite, 5, a simple expression of 'wild' in what is one of the wildest places in Britain, with its rough granite-and-slate houses and its shaggy impromptu market place. The Prison Commissioners want to demolish it and leave the site empty, rehousing with Cornish Units behind the street-line behind some ornamental planting. There are already Cornish Units in Princetown, 6, but they are out of sight of the main road and hence don't invade the shape of the village as a whole. The National Parks Commission have agreed to the houses, led astray by promises of shrubs and stone

walls, which will only make a bad job look worse: in fact the Prison Commissioners form a Crown department and can



do what they like—one more example of the absurdity exposed on page 421 of *Counter-Attack*.

What ought to be done? There are two alternatives: conversion, or replacement by a terrace on the street-line. And in this case common sense and common economy dictate conversion. A double Cornish Unit costs about £3,000; half of that spent on each of these terrace houses would build in all the labour-saving devices any housewife could want. If the reason is social, an attempt to soften the grimness for suburb-bred warders and their wives (they come on a three-year rota), then the answer is still conversion; the insides could be done up gaily to become oases of brightness and comfort (and that means bright wallpapers and contemporary furniture, not Civil Service colours and Chairs, Windsor, two dozen).

It is unfair to expect non-Moor people to do a grim job and come home to a grimly primitive house; equally it is absurd to spoil Princetown permanently for the sake of two or three three-year tenants with jobs in a gaol which should have been closed in 1945, and certainly will be as soon as more prisons are built. This compromise could satisfy both: would the Prison Commission consider it? The fate of a very individual part of England is entirely in their hands—wrongly, as we think: are they prepared to give it a life sentence?

Ian Nairn

SKILL

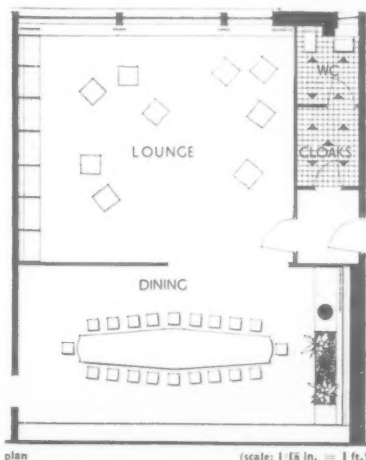
A MONTHLY REVIEW

OF BUILDING TECHNIQUES & INDUSTRIAL DESIGN

- 1 interiors
- 2 design review
- 3 techniques
- 4 the industry



1, looking up the dining table, which is made of two kinds of mahogany, towards the photo mural of Rievaulx Abbey. The veins of the leaf pattern on the table are picked out in brass.



1 INTERIORS

DIRECTORS' DINING ROOM AT LEEDS

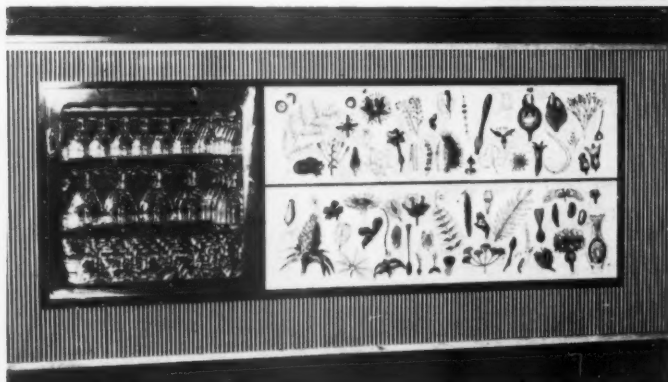
Architect: Derek Walker

A new suite was required at Montague Burton's works at Leeds for the reception of important guests by the board of directors; for the purpose a former staff dining room was entirely reconstructed. The lounge and dining room are parts of one room. All along the window wall of the lounge runs a low unit comprising a cocktail cabinet, two heaters and a glass display

case. The window frames are painted white, the curtains are of a heavy wool fabric, striped orange and red, and the pelmet is pierced sheet metal, lit by cold cathode tubes. The wall opposite the entrance is papered (the colours are grey, blue and white) and bench seating runs about half-way along, terminating in a low screen which projects at right angles. The back wall has a storage unit in the centre with areas covered in cedar boarding on either side, in each of which is an illuminated niche, one horizontal and one vertical; in one stands a sculpture of a young girl holding a bird, by Jill

Messenger. The lounge armchairs are covered in citron, black, oatmeal colour and the same orange and red fabric used for the curtains; the dining chairs are mahogany and follow a design by Robin Day. The occasional tables are in jacaranda wood; the circular card-table has a macassar ebony top, inlaid with a pattern in ash, defined by brass, and mild steel legs. The dining table is in two shades of mahogany, dark and light, the long leaf shape down the centre of the top being in the lighter wood, and the veins of the leaf picked out in brass. The leaf motif is expressed more naturalistically in the mural facing the display niches. The tables and most of the other furnishings were designed by the architect.

2



3



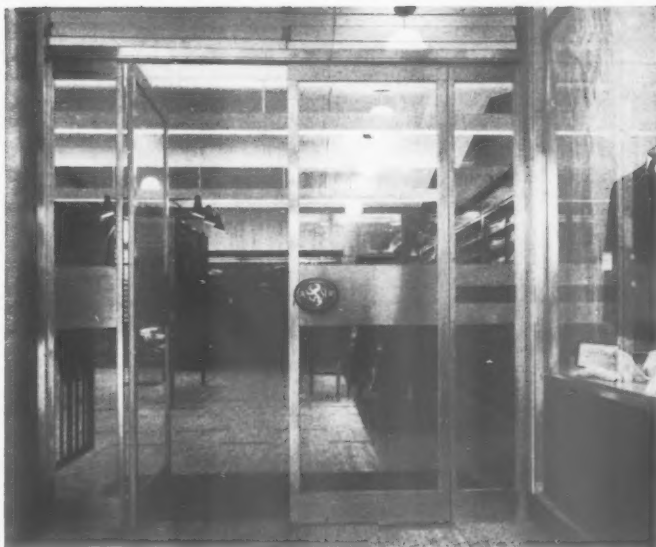
4



5

DIRECTORS' DINING ROOM AT LEEDS

2, a card table topped mainly with macassar ebony; the star inlay and the edge are in ash, with brass inserts. The carpet is green and black. 3, the cocktail cabinet under the window; the frame to the glazed portion is brass; the casing is white and grey. 4, looking from the window end to the dining space; the low dividing screen is black leather on a metal frame with a brass studded ebony handrail. 5, the dining table; the suspended ceiling in which the lights are fitted is black leather. The lights over the mural are Swedish.



1, 2

LIVERPOOL 1, the chromium-plated entrance doors. 2, the entrance elevation.



TAILORS' SHOPS IN LIVERPOOL, NOTTINGHAM AND MANCHESTER

Architects: Westwood Sons & Harrison. Partner in Charge: Norman Westwood. Assistant Architects: (Liverpool): Z. Fleszar; (Nottingham): Peter Watson & Jan Piet; (Manchester): R. Stokes.

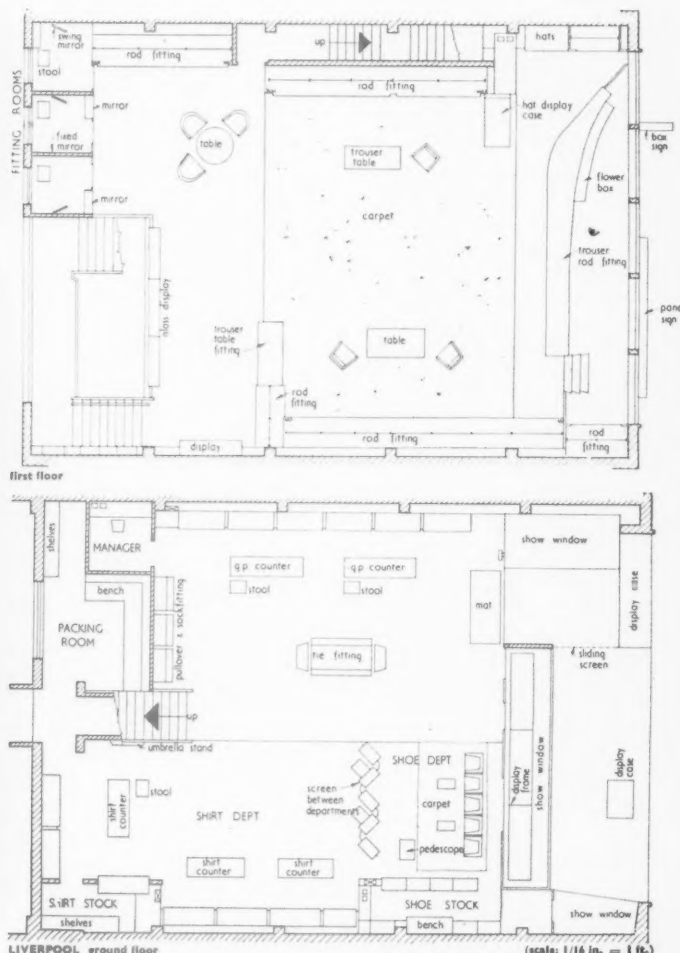
The requirements of this kind of tailoring shop are simple: a façade which will not be ignored; good display windows of various sizes and enough floor space inside.

LIVERPOOL The building for Austin Reed's shop in Bold Street, Liverpool, had only just been completed and the façade was very suitable in character; however,

the shop front was carried up two floors, an additional large window had to be formed at the rear and modifications made to the existing staircase. The front is recessed to obtain a much greater window length within the street frontage, and two isolated showcases are incorporated for displaying shirts and small articles. A



LIVERPOOL 3, the ground floor ceiling of ribbed asbestos sheeting, formed to mask projecting beams.



**TAILORS' SHOPS
IN LIVERPOOL,
NOTTINGHAM
AND MANCHESTER**

LIVERPOOL

4, the dropped front of the first floor which can be used when required as a show-window. 5, the ground floor looking towards the entrance. 6, another view of the ground floor, showing the simultaneous division in ceiling types and floor finishes.



4 sliding screen which disappears within the double skinned end of the long window cuts off the entrance lobby at night, and does not, when closed, obstruct the view of the windows. The stairriser at the front is black granite and the fascia is serpentine marble. The entrance doors are satin chromium plate, with vitreous enamelled pad handles with dark mahogany backs. Inside, the floor and ceiling are used to



emphasize the different sales divisions. The stair is lit by a specially designed pendant fitting; slabs on the staircase wall are finished with spar, and on one wall there is an enlargement of an eighteenth-century engraving of Liverpool.

One half of the landing and the right-hand upper flight of the staircase have been re-used—the landing as a gallery for window display fittings, etc.; the space

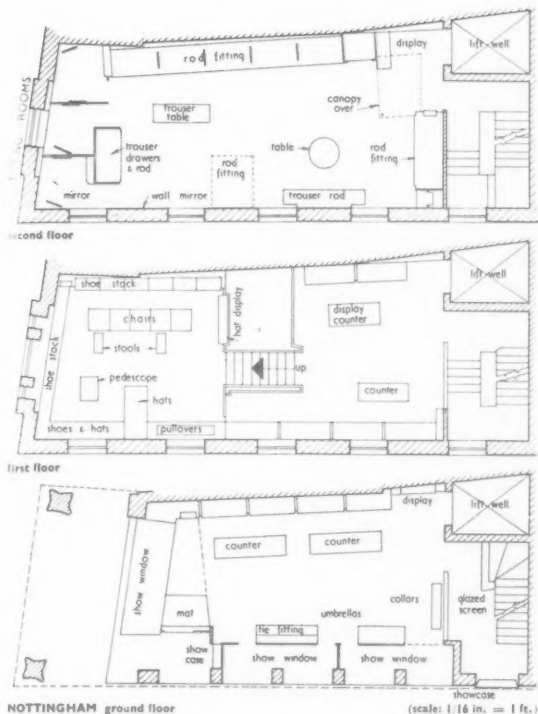
plate glass windows run from floor to ceiling; the dropped area can be used as an extra show window.

The fittings and panelling of both floors are generally constructed with block board or ply veneered with mahogany, wych elm, rosewood or yew. The floor finishes on the ground floor are unstopped travertine with Westmorland green slate insets to the right of the entrance, and maize marble korkoid to the left; on the first floor there is korkoid and a grey worsted carpet with yellow and blue spots. The ceilings are of ribbed asbestos sheeting in saw-tooth form with aluminium edges, masking the projecting beams, and light from continuous troughs below emphasizes the ribbing. All these portions of the ceiling are painted white, and only the flat portions of the ceiling are painted blue; in these flat portions, the light fittings are recessed to give a limited spill of light on to the ceiling. All heating is electrical: tubular heaters are placed below the ground floor wall fittings and thermostat heaters are built in elsewhere. The front of the ground floor is part heated by a fan-operated convector.

NOTTINGHAM The Nottingham premises (completed before those at Liverpool) occupy a corner site overlooking the Market Square. Austin Reed required a new shop front and the second floor (not before used as a showroom), the first and the ground floors completely rearranged. The



NOTTINGHAM 7, the exterior: the two free-standing columns, left, are faced with terrazzo units; the third with Rosso Levanto marble.



TAILORS' SHOPS IN LIVERPOOL, NOTTINGHAM AND MANCHESTER

NOTTINGHAM 8, the pendant light fitting which hangs down the well created by the change in level on the first floor; it is stove enamelled matt black, the supports are polished lacquered brass. Below: 9, on the first floor, looking from the main staircase across the well to the shoe and hat department; 10, from the same to the staircase.

third floor converted into a cash office, canteen, manager's office and stock room, etc., and the basement was to remain a stock room. To use the second floor a passenger lift was installed and a completely new staircase constructed within a fire-resisting glazed screen. As the ground floor is very small a well was formed in the first floor to link the two floors; the rear part of the first floor was lowered 4 ft. to make a small well more effective, and as at Liverpool, a special light cluster was hung down the well.

The main features of the entrance exterior are two free standing columns faced with black terrazzo units and one faced in Rosso Levanto marble, with the firm's monogram sand-blasted into it and gilded. The fascia is mahogany veneered, edged with bronze and the illuminated name panels are plyglass with the name in black enamel. The counters have slanting legs of stove enamelled mild steel with brass adjustable feet; the collar boxes have formica fronts with pictures of sporting dogs impregnated on to them. The wall above the entrance door is completely covered by a photo-enlarged eighteenth-century print of Nottingham and the panelling at this end is wych elm. The

unpanelled walls here and on the first floor are white and the ceilings saxe blue.

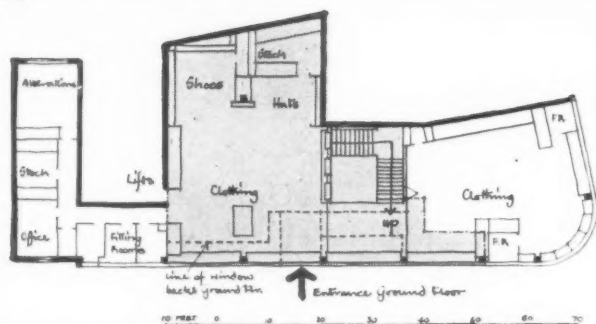
MANCHESTER The shop in Exchange Street, Manchester, the last completed of the three, occupies a large first floor and a small ground floor; hence the placing of the stairwell was a crucial factor in the

design. The entrance door and display unit to the left of it are the same as at Liverpool: the ribbed panelling in the interior is also as used at Liverpool. The ground floor finish is travertine and Westmorland slate; the stairs are finished in terrazzo; the balustrade is rosewood and brass. The shop is briefly illustrated on page 280.

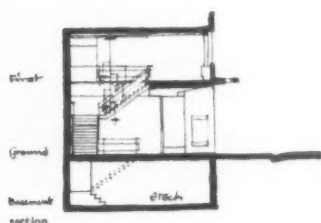




11



MANCHESTER plan of first floor (shaded area indicates extent of ground floor)



MANCHESTER 11, first floor looking across stairwell. The continuous light fitting is seen, right, running the full length of the floor. The ceiling is fibrous plaster; the pendant light fitting is the same as those used for the stairwells at Liverpool and Nottingham. 12, the stairwell; the wall covering is a German washable plastic, in green, beige and black, framed in mahogany.

12



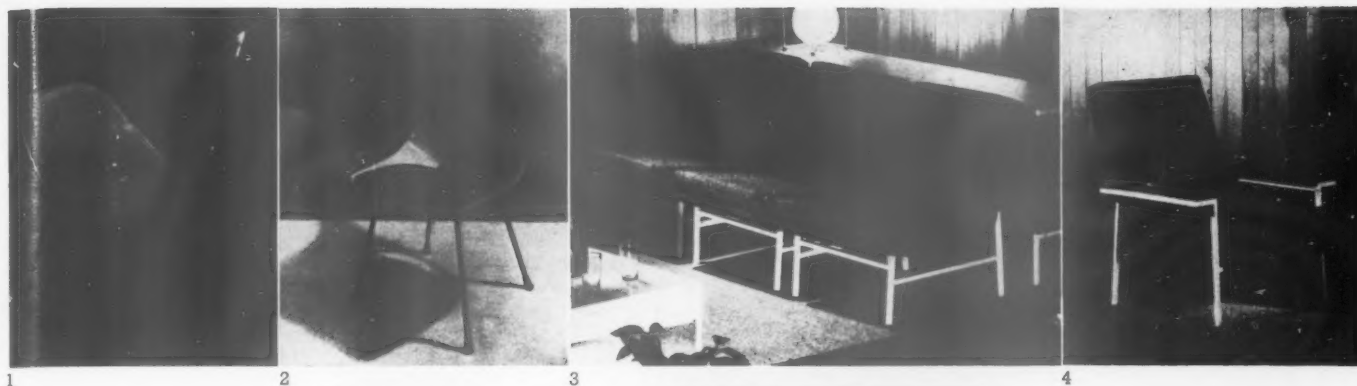
2 DESIGN REVIEW

NEW SEATING FASHIONS IN PARIS

by Robert Brozning

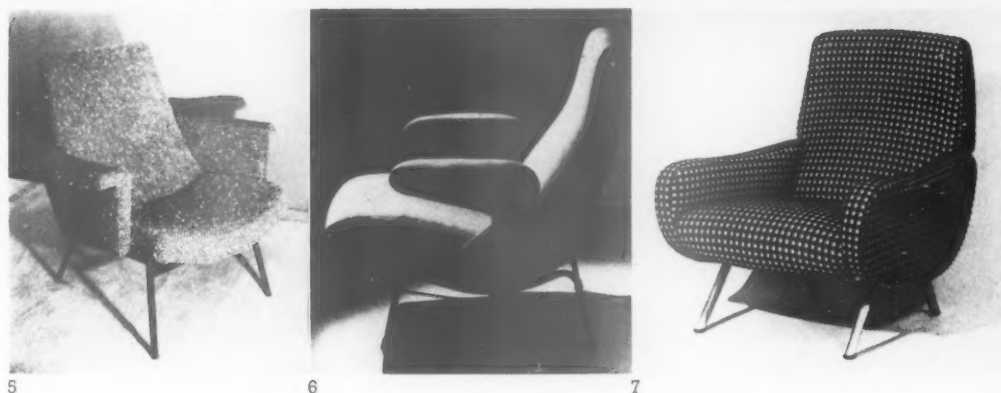
French taste in furnishings and interiors is notoriously conservative—or, rather, has been conservative, for there are signs now of a growing revolution in the influential sectors of popular taste, just as there was a revolution in similar sectors of opinion in England between Britain Can Make It and the Festival. However, the swing in French taste cannot be dated by officially-sponsored exhibitions, but rather by the entry of foreign commercial enter-

prises into the French furniture market. One of the first noted events in the Paris furniture revolution was the opening in the Rue de L'Abbaye, Saint Germain-des-Près, of a very small showroom by Knoll International. From this beginning good contemporary furniture design has caught on surprisingly with the general public and at the last 'Salon des Arts Ménagers' (the French Ideal Home Exhibition), the furniture section reflected how far the mode had progressed, despite many corruptions and misused clichés. Texture and colour are now replacing the 'Borax' ornaments and gilt trimmings which were the stock-in-trade of the immediate post-



By Steiner: 1, chair 'Tulipe'; seat of moulded stratified polyester fibre, legs black satin-finished m.s. tube. 2, 'T.C.'; seat moulded silver birch, legs as 1. 3, 4, foam rubber cushions on cloth-covered springs, square section metal frame and legs. 5, upholstered dunlopillo on steel frame. Arflex chairs: 6, 'Delfino,' designer E. Carloni. 7, 'Lady,' designer Zanuso. 8, 'Elettra' 1 & 11, designers Belgioioso, Peressutti and Rogers. Knoll chairs: 9, dining and 10, armchairs; welded metal frames and detachable legs satin-finished black or white, with or without foam rubber overlay upholstered in woven or linen materials.

new seating fashions in Paris



8



9



10

war French modern rococo furniture designers. Ornate drawer pulls and cupboard handles have been replaced by simple D handles, and legs have become practically standardized round or square-section metal, usually painted black. Only television and radio cabinets seem to have been left untouched by the contemporary designers.

In 1955 the big store 'Au Printemps' ran a large and well presented exhibition of Knoll furniture, and since then have kept the Knoll range on permanent display. 9, 10. Last year 'Au Printemps' had another special exhibition, devoted to modern seating. The influence of Knoll's designers, Kurt Norstrom, Saarinen and Bertola, was to be seen everywhere, but somehow the imitations were not up to the standard of design of the originals. It seemed that most of the chairs were designed by the very same people who were guilty of creating the last decade's over-ornamented monstrosities. One notable exception was a group of chairs designed by Steiner, who has produced some straightforward moulded plastic seats with metal legs, 1, 2, and comfortable, upholstered armchairs in simple textured hardwearing materials, 3, 4, 5.

Another exhibition of chairs being put on

the French market was held last summer by Arflex-France, sister company to Arflex-Milano. Though most of these chairs have been on the market for some time in Italy, in Paris they are being received as something really new and exciting. A point stressed by the organizers of this exhibition was that all the chairs were designed by architects, and one wonders what would happen if a British firm of furniture manufacturers commissioned a dozen well-known British architects to create a range of furniture to fulfil all their needs.

The chairs on view were designed by the following architects, F. Albini, L. Belgioioso, G. Calza Bini, E. Carloni, G. De Carlo, R. Menghi, C. Pagani, E. Peressutti, E. Rogers, M. Zanuso, most of whom are better known for their architecture than for their furniture. One felt immediately that each chair had been carefully studied from both structural and aesthetic points of view. In addition they all had the appearance of being as comfortable as they really were; this is often a deceptive point with contemporary seating.

Particularly interesting were the armchair 'Delfino' by Carloni, 6, upholstered in foam rubber, the armchair 'Lady' by Zanuso, 7, and the office chairs 'Elettra' 1 and 2, 8, and

'Urania' by Belgioioso, Peressutti and Rogers. The latter seemed the right sort of furniture to go with Olivetti typewriters.

A practical feature of this range of furniture is the ease with which the upholstery covers can be removed, either for cleaning or renewal. All cushion covers had concealed zip-fasteners at the back, and the arm and back covers were invisibly hooked to the underside of the seats. The materials used were plain, unpatterned felts, nylons and tweeds in bright chromatic colours. Checks are also available but were not on show. The general standard of finishes for details such as metal legs was excellent; even the packing cases for these chairs have been carefully studied. Based on their experience of this furniture in Italy, Arflex give a 10 years' guarantee with every model. Their prices, £45, approximately, for the model 'Delfino' and £12, approximately, for the 'Elettra 1,' are high but compare favourably with similar quality furniture on the French market. It is high time that an enterprising British furniture manufacturer entered the international field with the right models. At the moment one can buy well designed Scandinavian, German, American, Italian and home produced French furniture in the Paris shops, but no British.

ADJUSTABLE ELECTRIC WALL FIRE

by John Carr

It is strange that up to now industrial designers have failed to produce more than one or two electric fires which could be said to make an honest visual contribution to interior design. Whilst there seems to be no good reason why the electric fire should not contribute in its own individual way, even as the traditional coal fire has done, this has not happened so far.

At present the fires available on the market fall into two categories; the portable which can be kicked around the floor as required, or the fixed type which is positioned on the main wall, usually in an existing fireplace opening as the focal point of the room in imitation of a coal fire. From a practical aspect the former is a source of danger due to trailing flex and the ease with which you can

knock it over or stand too close, especially when it is in an unfamiliar position. The latter, whilst obviating these risks has the disadvantage of providing heat from one direction only whilst being visually only a poor substitute for the open fire. This surely suggests it is time we started using electric fires in a freer manner even as we do electric light fittings (we no longer think in terms of the light in the centre of the room); by making the fires adjustable in direction of heat throw and fixing them on walls where convenient. However, this approach does require a rethinking of the form the fitting will take for the traditional rectangular shape of most fires is too directional for free use in the room.

In this connection the appearance of the new fitting illustrated here (and on the cover), which was specially designed for use in the offices of THE ARCHITECTURAL REVIEW by Kenneth Browne, A.R.I.B.A., is of particular

interest. It is essentially a high level wall fire which can be tilted by slight hand pressure on the rim (this does not burn the hand) to point in any direction desired and it was decided evidently that a circular shape was the most satisfactory for such flexible use. By keeping the reflector shallow, with slight projection from the wall, a feeling of extreme lightness has been obtained and there is no doubt that this fire, especially when lit, does make a very definite contribution to interior design

and is an honest expression of an electric fire as opposed to any other type. (Several could be used at a time.) It is finished in chromium for maximum reflection and is protected by an expanded metal safety guard which, instead of looking like an afterthought, is an essential part of the design. A flat boss conceals the element from direct view and only the reflection in the bowl is seen. It was essential for flexible use that the direction of heat throw should be adjustable and, by means of a special balljoint mounting, which incidentally completely avoids the sagging common to most such joints, the bowl has a range of movement of 30° downwards and 35° to either side. The base fastens direct to a recessed junction box; all wiring is concealed.

[Note: The fitting was designed in conjunction with Messrs. Allen-Boxden Ltd. and Messrs. H. Frost & Co. Ltd., Walsall, the makers. It is understood the fitting will be in production shortly; enquiries should be made to Messrs. Frost.]



3 TECHNIQUES

EXTERNAL PAVINGS 2

by Robert Maguire

This is the second of two articles by Robert Maguire on external paving methods and their comparative costs. In the first article* the author divided pedestrian pavings into five types—flags, tiles, blocks, in situ and loose materials—and dealt with the first three of these. He continues here with the remainder, and adds some notes on the ways in which the cost of paving is affected by departures from standard practice.

In Situ Materials

Concrete, asphalt and coated macadam are not materials which immediately bring inspiration. They are three of the cheapest paving materials and because of this have been used wherever low cost has been considered the main criterion; this, unfortunately, means almost everywhere. One immediately thinks of those dreary waste spaces between the blocks of council flats of the inter-war years, and macadam in particular now forms the covering of such large areas of our towns that some relief from it is always welcome.

In the case of concrete, however, the amount of research carried out in the last ten years has produced such good results that in situ concrete paving need no longer be characterless. The others—black tops—will

continue to be used for pedestrian areas whether we like it or not, and more widespread knowledge of their possibilities and limitations may help to encourage their better use.

In situ concrete. Any large concrete slab requires dividing up into sections in order to avoid cracking due to thermal movement or uneven subsidence. The simplest (but not in itself the most rewarding) method of relieving concrete paving is to make use of the joints to provide a pattern. The joints will then, of course, be closer together than is really necessary. Wide joints are often made by means of the wooden boards which serve for retaining and levelling the concrete; the boards are removed and the space filled with bitumen emulsion, a weak concrete mix, or sifted soil. Sometimes the boards are left, which is bad practice, as they may rot. This method of making the joints

restricts the possibility of using only the joint-pattern to the formation of large-scale units of a simple pattern, unless the cost is much increased.

A product developed for 'reinforcing' concrete industrial floors, 1, shows an interesting approach to the problem of providing joints in concrete, and the same principle might with advantage be taken up by a manufacturer for use in pedestrian paving work. The steel hexagon grille does not in fact reinforce the floor, but provides complete flexibility by pre-cracking. The mesh is rather small (4 in. is the largest) and the amount of steel unnecessarily high for ordinary paving work; a slightly larger hexagon made in lighter gauge metal or plastic would be a valuable addition to paving technique.

A machine has been invented in the United States for cutting joints in concrete slabs as soon as the con-

crete has set. It resembles a large portable circular saw, with a special blade. There is a small number of them in this country, but their use is unlikely to be economical yet except perhaps on large projects.

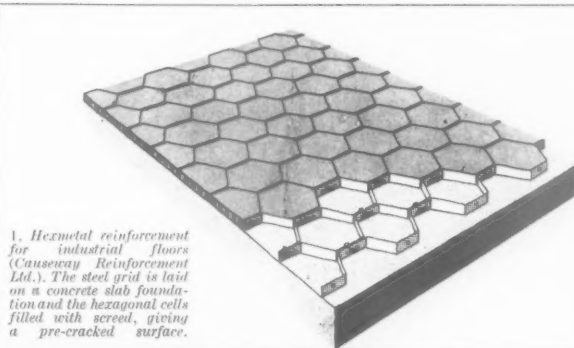
Changing the colour of alternate slabs is a simple method of patterning areas of in situ concrete, 2. The cheapest way is to use unpigmented concrete in juxtaposition with concrete of one other colour, obtained by mixing in one of the pigments recommended in BS 1014. Care should be taken to specify the exact amount of added pigment, as too much tends to weaken the mix. All the slabs of one colour are cast first, using timber shuttering around the edges; the timber is then removed and the other colour is cast using the first slabs for 'shuttering' and levelling. The joint between the two can be prevented from bonding by either a strip of building paper or by brushing with mould-oil before casting the second series of slabs.

There are two kinds of surface texture which can be applied to in situ concrete paving; mechanical and aggregate textures. A similar distinction was made, in the first article on paving, for the texturing of precast concrete flags, and a number of examples were given of the two types. The same textures cannot all be applied to in situ concrete as many of them are dependent on the flag being cast face down.

* AR, February 1957

Mechanical textures particularly are very limited; profiled mould linings obviously cannot be used and so the possibilities are restricted to scoring or denting the surface before the concrete has completely set. Lines or shallow V-grooves can be quite easily made but are not particularly effective. A simple device known as a crimping roller, 3, can be used for producing a texture of small pyramidal depressions, 4. It is, unfortunately, only made in this one design and in practice the roller must be used very carefully for the texture not to look a mess. The idea may, nevertheless, have some possibilities as there is obviously much room for improvement in the design of the roller. Another technique which does not seem to have been developed at all is the use of profiled tamping boards. The author has seen a small footbridge (at Salisbury) cast by amateur labour, where this has been used with some success.

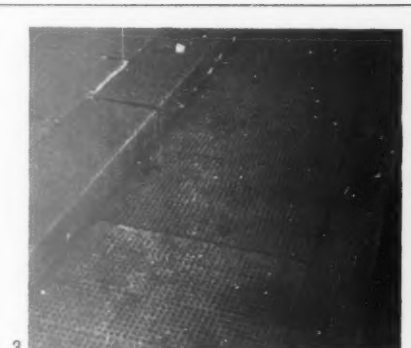
Exposed aggregate finishes have been used with great success in paving work as in the cladding of buildings. This is, in fact, the field in which most research work has been carried out. The technique for texturing in situ paving is very similar to that described in the first article for precast flags. Cheap aggregates such as flint ballast, which are normally used throughout the whole slab, are exposed by spraying and brushing soon after the concrete has set. This type of aggregate, however, is not very attractive exposed in large unbroken surfaces, and so it is more rewarding to use a more expensive stone, with a good colour or mixture of colours, applied to the surface and tamped in. The stones are spread over the concrete a few hours after casting—a great deal depends on the efficiency and care of the man with the shovel—and a vibrated tamper should be used, for preference. To obtain an even effect, the paved area should be divided up into manageable sections of a maximum



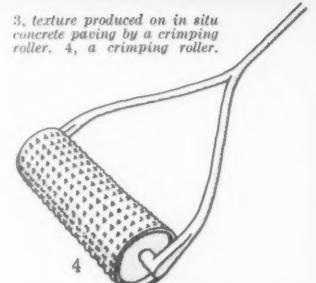
1. Hexmetal reinforcement for industrial floors (Causeway Reinforcement Ltd.). The steel grid is laid on a concrete slab foundation and the hexagonal cells filled with screed, giving a pre-cracked surface.



2. large (9 ft.) squares of in situ concrete at the F.O.B. South Bank Exhibition. Alternate squares were coloured red by adding pigment to the concrete. The joints were 1 in. wide and filled with bituminous emulsion.



3. texture produced on in situ concrete paving by a crimping roller. 4. a crimping roller.



width of ten feet, and the joints between sections accepted as part of the general pattern. An excellent example of the use of this technique is the Market Square and Bus Station at Corby New Town, 6. Here the joints between sections are wide, and paved with precast flags, so that a large-scale pattern results. Some of the flags are of shallow channel section to act as rainwater runways, and all buried services run beneath the flags to allow access without backing up the in situ paving.

Large 'aggregates' such as cobbles are not suitable for applying in this way, and must be hand-pressed into

a screed as described in the first article. A different effect can be obtained by using a medium-sized aggregate scattered sparsely over the surface and tamped in, 6. Great care has to be taken to get an even distribution.

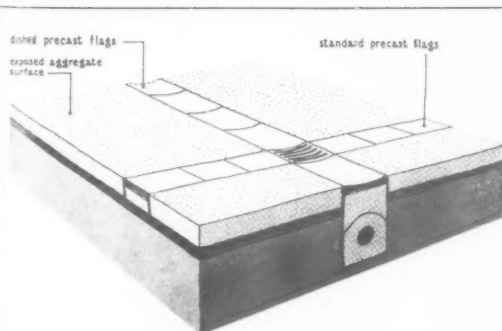
Research is at the moment being carried out on the spraying of coloured screeds on to concrete slabs, primarily for use on zebra crossings. Boards are laid down to mask out areas of one colour while the other colour is being sprayed; the masking is then put on top of the sprayed areas and the process repeated for the second colour. To be most

economical the sections of each colour should be of the same size and shape so that the same masks can be used. The screed should be about 1 in. thick.

Hot asphalt. The type of asphalt used for paving work is mastic asphalt, which is a mixture of very fine aggregate and asphaltic cement. The work is carried out by specialist contractors who have their own specifications for every traffic condition. 'Medium duty' grade should be used for pedestrian paving (see also BSS 1410 and 1076); the material is applied hot and is spread with a hand-float. This is important since it



7



5. section of the Market Square paving at Corby. The in situ concrete slab is 8 in. thick and lightly reinforced; although normally a pedestrian area the Square is used by vehicular traffic on occasions for servicing. The drains and other services are situated below the precast flag dividing strips; some of the latter are of channel section to collect rainwater and direct it to catchpits at the crossings of the dividing strips.



8



6. in situ concrete paving at Tavistock. A medium-sized aggregate has been scattered sparsely over the surface and tamped in.



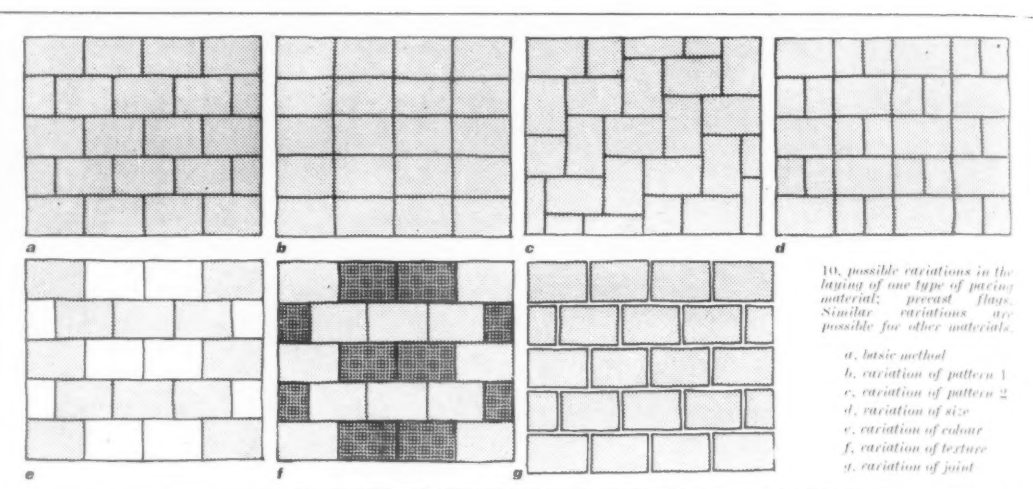
7. gravel surfacing with precast flag paths at Fountain Court, Temple, London. The gravel is brought right up to the trunks of the trees. 8. loose cobbles providing a hazard at Ham Common; they prevent pedestrians cutting across in front of the living room windows, left (Architect, Eric Lyons). 9. loose cobbles used to fill between stepping-stones in a Japanese garden.

means that hot asphalt, unlike coated macadam which have to be rake-spread and rolled, can be used where considerable butting-up to other paving materials is involved.

Hot asphalt in its natural state is dark grey, but pigments can be added to produce colours; dark red and brown are the only really practicable colours, as the natural blackness of the material is difficult and expensive to overcome. A good solid foundation is necessary for hot asphalt paving, since any subsidence will cause cracking of the asphalt; frost action will then take place and the surface craze and lift. A concrete slab foundation is the best, but on good ground hardcore and ashes, well consolidated with a 2½-ton roller, is quite sufficient. The asphalt itself is laid in one coat about 1 in. thick on concrete, and preferably rather thicker in two coats on hardcore and ashes.

The surface left from the trowel is smooth and slightly slippery in wet weather. A crimping roller, 3, may be used to apply a texture, as for in situ concrete.

Coated macadam. There are three forms of coated macadam; tar macadam (slag or stone aggregate coated with tar, BS 1242), bitumen macadam (similar aggregate coated with bitumen, BS 1621), and 'cold asphalt,' which is really a very fine-textured bitumen macadam, BS 1690. The material is laid in two coats; a 1½ in.



10, possible variations in the laying of one type of paving material; precast flags. Similar variations are possible for other materials.

a, basic method
b, variation of pattern 1
c, variation of pattern 2
d, variation of size
e, variation of colour
f, variation of texture
g, variation of joint

thick base course, which may be of either tar or bitumen macadam, and a wearing course, ½ in. to 1 in. thick. The base course is not intended to be impervious, owing to the large size of aggregate used. It is, therefore, essential that the wearing course should be completely impervious, to prevent frost action. For pedestrian paving work the choice is between a fine grade (½ in. aggregate) bitumen macadam and cold asphalt. The for-

mer is more flexible and less likely to crack, but the latter cheap enough to compete in price with hot asphalt. The decision will depend on the condition of the ground and the strength of the foundation.

Coated macadam is applied cold, or slightly heated, and requires rolling with as heavy a roller as the foundation would be rolled with the same roller, usually 2½ tons, this is a fair guaran-

tee against failure. The foundation itself should be of hardcore well rolled and blinded with ashes. The thickness of this will again depend on the condition of the ground; 4 in. is sufficient for good ground and pedestrian traffic. A layer of clinker should be put down first if the sub-soil is of clay.

The necessity of rolling restricts the use of this type of paving to large, more or less unbroken areas. Corners, and sometimes edges, cannot be rolled and hand compaction with a punner has to be resorted to. This does not produce adequate compaction and tends also to be expensive.

Bitumen macadam and cold asphalt can be pigmented dark red (a good example is The Mall, Westminster) but this is an expensive process. The colour of the aggregate also affects the appearance once the surface has worn slightly. Lastly, it should be said that cost varies according to the location of the job, areas in which a local aggregate is obtainable being the cheapest. In this respect, London is fairly expensive.

loose materials

Gravel. The choice of gravel as a paving material should depend a great deal on the particular character required; perhaps more so than with most other pavings. It almost invariably produces the character associated with precincts, 7, rural market-places or village greens; it is, in fact, particularly suitable for providing hard ground around trees in places where grass is unsuitable owing to heavy pedestrian traffic. It may be taken right up to the trunks since it allows the roots to 'breathe.'

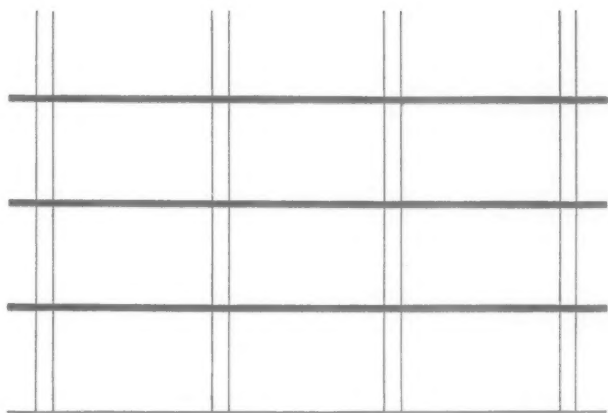
The success of a gravel surface depends on adequate heavy rolling at all stages of the work. A foundation of sound hardcore or large clinker is required, rolled to a finished thickness of 4 in. Next a layer of large gravel (2 in. screen) is laid and rolled to 2 in. thick, and the surface finished with fine gravel with sufficient hoggins for binding, again rolled to 1 in. thickness, with fine grit or shell spread over it, rolled once more. It will be seen that a simple edge layout with a minimum of corners is essential in view of all this rolling.

On no account should gravel surfacing be regarded as something to be done 'on the cheap'; although not intrinsically expensive, it must be done thoroughly, otherwise a mud-patch will result.

Cobbles. Large cobbles laid loose on the surface of the ground are useful as a hazard rather than as a normal paving, 8 and 9. Otherwise they should be bedded in a screed as described in the first article. If seat-

| material | finish: colour texture pattern | thickness | sizes | cost of raw material | pattern of laying | foundation type | total cost per yard super |
|-----------------------------------|---|--------------|------------------------|--|---|--------------------------------------|---------------------------|
| concrete slab | natural grey, tamped | 4 in. | 6 ft. squares | cement 104s. 6d. per ton sand 24s. 5d. per cu. yard aggregate 23s. 11d. per cu. yard | square grid; 1 in. joints filled with bitumen | hardcore | 17s. 5d. |
| concrete slab | natural grey and pink pigmented, tamped | 4 in. | 6 ft. squares | cement 104s. 6d. per ton coloured cement 200s. 0d. per ton sand 24s. 5d. per cu. yard aggregate 23s. 11d. per cu. yard | square grid; grey and pink chequerboard | hardcore | 16s. 9d. |
| concrete slab | pink pigmented, textured with crimping roller | 4 in. | — | coloured cement 200s. 0d. per ton sand 24s. 5d. per cu. yard aggregate 23s. 11d. per cu. yard | — | hardcore | 17s. 10½d. |
| concrete slab | flint ballast aggregate exposed on surface | 4 in. | 10 ft. x 15 ft. panels | cement 104s. 6d. per ton sand 24s. 5d. per cu. yard aggregate 23s. 11d. per cu. yard | rectangular grid | hardcore | 16s. 5d. |
| concrete slab | Mountsorrel granite aggregate tamped into surface and exposed | 4 in. | 10 ft. x 15 ft. panels | cement 104s. 6d. per ton sand 24s. 5d. per cu. yard aggregate 23s. 11d. per cu. yard Mountsorrel granite 45s. 0d. per ton | rectangular grid | hardcore | 18s. 5½d. |
| sprayed concrete screed | natural grey and pink pigmented | 1 in. | 4 ft. squares | — | square grid; grey and pink chequerboard | 4 in. concrete on hardcore | 29s. 0d. |
| hot asphalt, medium duty | black, smooth from hand float | 1½ in. | — | — | — | well-consolidated hardcore and ashes | 30s. 9d. |
| hot asphalt, medium duty | black, smooth from hand float | 1 in. | — | — | — | 4 in. concrete on hardcore | 35s. 0d. |
| hot asphalt, medium duty | red pigmented; smooth from hand float | 1 in. | — | — | — | 4 in. concrete on hardcore | 40s. 3d. |
| bitumen macadam, two courses | black, fine grade top course, rolled | 2½ in. | — | — | — | well-consolidated hardcore and ashes | 25s. 6d. |
| bitumen macadam, two courses | fine grade top course pigmented red; rolled | 2½ in. | — | — | — | well-consolidated hardcore and ashes | 26s. 9d. |
| 'cold asphalt' on bitumen macadam | black, smooth, rolled | 2 in. | — | — | — | well-consolidated hardcore and ashes | 23s. 5d. |
| gravel | 1 in. fine grade top layer with shell | total 3 in. | — | gravel (coarse) 27s. 6d. per cu. yard gravel (fine) 43s. 0d. per cu. yard cockleshell 9s. 0d. per cwt. | — | well-consolidated hardcore | 11s. 8d. |
| cobbles | round, smooth | single layer | 3 in. | Essex grey cobbles 120s. 0d. per ton | laid loose on top soil | — | 25s. 4d. |

Table of comparative costs of various paving materials, methods and patterns of laying, based on quantities of 100 yards super or more, executed as part of a larger building contract in the London area. The prices for raw materials include haulage, which is sometimes considerable. Allowance should be made for this when considering conditions in other areas.



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continued from page 284]

tered fairly thinly, i.e., a layer one stone thick, grass will probably grow between the cobbles; the ground may even be specially seeded to encourage this, so that a 'hard grass' effect is obtained; it will still be difficult to walk on.

the effects on cost of variations in laying

These articles have dealt so far with each type of paving material considered on its own. Quite often it is desired to use a material in a slightly different way than is usual,

or to mix two or more materials. The comparative prices given here in the tables do not take this into account, and have to be adjusted according to the complexity of the variation.

There are several ways in which the laying of even a standard unit may be varied. The illustrations, 10, show these in the case of precast concrete flags. Similar examples can be thought of for other materials.

Basic method. The way in which the material is laid when no extra factors are involved may be called

the basic method. In the case of standard precast concrete flags this is in courses with staggered joints; for paving bricks, stretcher bond; for coated macadam, large areas with a simple outline, uncoloured, and so on. It is always bound to be the cheapest method—that is why it has become 'standard practice.'

Variation of pattern. This is the most frequent variation, and one which may have no effect on cost, or a great one. The two factors to be taken into account are setting out and alignment. In laying flags in courses, 10a, no setting out is required, except a straight line to start on and a check every fourth course or so. Similarly the staggered joints in the other direction do not require aligning because slight errors do not notice. A rectangular pattern, 10b, requires little setting out, but careful alignment in both directions is necessary. No extra charge is made for this. But a herringbone pattern, 10c, requires both elaborate setting out and constant checks on alignment, and is likely to increase considerably the cost of laying.

Variation of size. If several different sizes of unit are used, 10d, it is important to make sure that the sizes are either standard (in the case of mass-produced units) or practicable (as, for example, with stone flags). Cutting of units on site is expensive. The example shows two sizes of precast concrete flag, 3 ft. and 1 ft. 6 in. long; both are BS sizes and so the only increase in cost is that caused by the smaller flags being slightly more expensive area for area than the larger. If 2 ft. and 1 ft. units were to be used, the 1 ft. units would have to be cut on site as they are not a standard size.

Variation of colour. The example

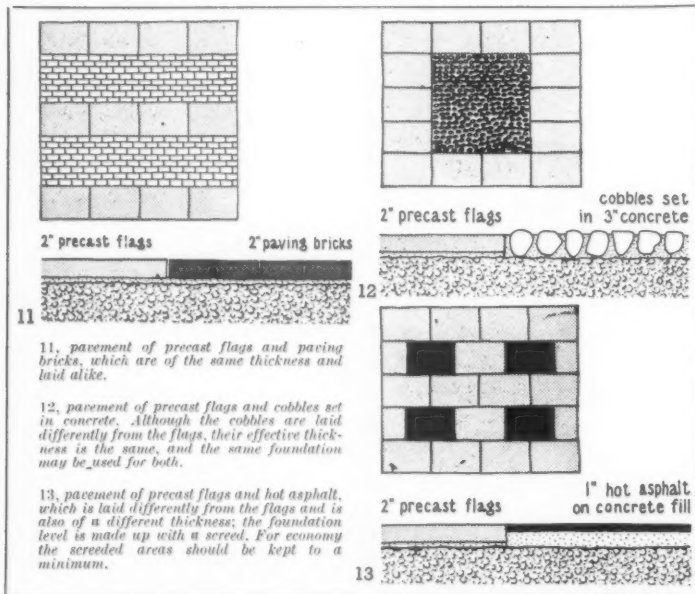
shown, 10e, would not incur any extra cost (beyond that due to the slightly higher price of the coloured flags) if the coloured units were a standard product. But in the case of, say, coloured hot asphalt, alternate bands of different colours would prevent the material being laid in a 'clean sweep' from one end of the paved area to the other. Work would be interrupted at each change, and a large amount of edging work would be involved where the colours meet. The increase in cost would then be considerable.

Variation of texture. The same applies, with the example shown, 10f, as for variation of colour. An example of where increased cost may be caused by varying a texture is where two different colours of exposed aggregate are required on in situ concrete paving. There would have to be a considerable time-lag between the casting of the two sections of concrete, in order not to get stray aggregate tamped into the wrong section. Whether or not this would increase the cost appreciably would depend on the contractor's site organization.

Variation of joint. The joints between units, or sections, can be emphasized by laying the units wider apart than usual and filling with another material, 10g. This will often increase the cost. If, for example, precast concrete flags were to be laid with 2 in. wide joints filled with sifted earth, the cost of filling would increase the total price; if, on the other hand, the wide joints were grouted up, there would be little difference in cost between this and grouting up narrow joints, which would probably be done in any case.

The examples mentioned here are not, of course, intended to be

[continued on page 288



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continued from page 286]

exhaustive, and it is hoped that, by describing techniques on the one hand, and giving examples of typical variations on the other, a greater feeling for the way design decisions influence costs may be encouraged.

the effects on cost of mixing materials

This is a more difficult subject than that of varying the laying of the same material, firstly because the number of combinations is very great and each one is a separate case.

One of the main considerations is the degree of complexity; close and frequent changes from one material to another (even if alternate areas of only two materials) will almost invariably cause the cost to rise. This need not be so, however, if the two materials are of similar natures; that is to say, if they are of approximately the same thickness and laid in the same manner, e.g., 2 in. concrete flags and 2 in. paving bricks, 11.

The thicknesses of adjoining materials, if not laid in the same manner, should preferably be the same. For this purpose the thickness is taken from the top of the foundation to the finished surface; one

foundation can then be prepared for the two materials, 12. It is difficult for an extra thickness of hardcore foundation to be compacted in isolated areas here and there. A screed would be used to make up the difference, adding to the cost.

If two materials of unequal thickness are to be used, the thinner material should cover the smaller area if cost is to be kept down, 13.

Some materials are almost incompatible. Lines of concrete or stone flags, for example, should not be used to divide up areas of coated macadam. The heavy roller needed to compact the macadam would fracture the flags if it had to cross them. On the other hand, granite setts can be (and are, in fact, frequently) used for such a purpose; they can take the weight of the roller and can be disregarded by the driver, who will roll the whole area as one. Hand compaction of the macadam along the edges adjoining the setts is then unnecessary.

acknowledgment

The prices given in this article were prepared by Lemon and Blizard, Chartered Civil Engineers, Surveyors.

4 THE INDUSTRY

small house domestic boiler

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Tomo pleated blinds in position.

pleated blinds

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Factory at Wallsend-on-Tyne. Architects: S. W. Milburn & Partners. Main contractor: Bovis Ltd. Sub-contractors: Asphaltic roofing: Asphaltic Roadways Ltd. Venetian blinds: J. Avery & Co. Weighbridge: W. & T.

[continued on page 290]

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continued from page 288]

Avery Ltd. Kitchen equipment: Benham & Sons. Joinery: Bovis Joinery Works. Metal windows: Fredk. Braby & Co. Roofing, factory: Wm. Briggs & Son. Paint: British Paints Ltd. Concrete reinforcement: British Reinforced Concrete Eng. Co. Plumbing: Cairns (Newcastle) Ltd. Piling: The Cementation Co. Hardwood curtain calling: Construction Units Ltd. Prestressed beams: Concrete Ltd. Panelling: Coutts & Findlater Ltd. Site work: Dowsett Engineering Construction. Structural steel: J. W. Ellis & Co. Goods and passenger lifts: Express Lift Co. Flooring: Granwood Flooring Co.; Greengate & Irwell Rubber Co. Heating and ventilation: G. N. Haden & Son. Refrigerator: J. & E. Hall Ltd. Linoleum: W. E. Harker Ltd. Kitchen equipment: Hobart Manufacturing Co. Metal W.C. partitions and boiler house windows: Henry Hope & Son. Vinyl flooring: N. Jack & Co. Steel platform: Allan Kennedy & Co. Concrete rooflights: J. A. King & Co. Balustrading, gates and fencing: F. Kirkup & Co. Sprinklers: Mather & Platt Ltd. Metal rooflights: Mellows & Co. Shuttering to shell roof: Mills Scaffold Co. Laboratory furnishings: Mordue Bros. Ltd. Osco sign: Nova Sign Co. Foundation stone: C. S. Ormerod Ltd. Granolithic flooring: Pollock Bros. (London) Ltd. Roller shutters: Potter Rax Ltd. Glazing: Reed Millican & Co. Scitche-gear: A. Reyrolle & Co. Vertical cladding, factory: Robertson Thain Ltd. Furnishings: Robson & Sons Ltd. Sanitary fittings: Shanks & Co. Kitchen equipment: Stott & Co. (Engineers). False ceilings: Sundecala Board Co. Wall and floor tiling: Summers & Co. Road surfacing: Tarslag Ltd. Copings, kerbs, flagstone: S. Tyzack & Co. Ironmongery: D. A. Thomas & Co. R.C. chimney: Tile-

man & Co. Terrazzo: Toffolo Jackson & Co. Plastering and floor screeds: Webster Davidson & Co. Wallspan: Williams & Williams Ltd.

House at Akeley, Bucks. Architect: H. J. Richards. General contractors: Smith Bros. (Bletchley) Ltd. Sub-contractors: Roofing specialist: F. McNeill & Co. Heating: Radiation Ltd. Lighting fittings: Merchant Adventurers Ltd.; Cone Fittings Ltd. Sanitary ware: Adamsez Ltd. Sliding windows: P. C. Henderson Ltd. Tiling: A. R. & W. Cleaver Ltd. Paint: International Paints Ltd.

School at Harlow. Architects: Henning & Chitty. General contractor: Kirk & Kirk Ltd. Sub-contractors: Steel: Dorman Long & Co. Reinforced concrete: Caxton Floors Ltd.; Concrete Ltd. Bricks: London Brick Co.; Proctor & Lavender Ltd. Music room dome: Lensecrete Ltd. Flooring: Vigers Bros. Ltd.; Granwood Flooring Co.; Marley Tile Co.; Hollis Bros. Ltd. Roofing: William Briggs & Son; Ragusa Asphalt Paving Co. Suspended ceilings: Gyproce Products Ltd.; Expanded Metal Co. Doors: Esavian Ltd.; Jayanbee Joinery Ltd. Cloak fittings: Mountford Brothers. Ironmongery: Walker & Wood Ltd. Paint: Lantham Brown Ltd. W.C. partitions: Flexo Plywood Ltd. Laboratory fittings: J. Cannon & Son. Gymnasium fittings: Olympic Gym Co. Library fittings: Libraco Ltd. Sanitary fittings: Edward Marshall Ltd. Sanitary fittings (showers): Walker Crosswell & Co. Blackboards: Wilson & Garden Ltd. Stage lighting: W. J. Furse & Co.; Falk Stadelmann & Co. Windows and doorframes: Henry Hope & Sons Ltd. Balustrading: Hotchkiss (Engineers) Ltd. Laiterie and rooflights: Aygee Ltd.; T. &

W. Ide Ltd. Tiling: Parkinsons (Wall Tiles) Ltd. Painting: Christophers Ltd.; Clark & Fenn Ltd. Plastering: Milne Ltd. Signboards, etc.: F. B. Hall Ltd.; Comyn Ching Ltd. Timber window frames and cladding: Simms, Sons & Cooke Ltd. Electrical installation: Eastern Electricity Board. Heating, hot water and gas installation: Engineering Service Installation Ltd. Plumbing: Matthew Hall Ltd. Acoustic treatment: Campbell Denis Ltd.; Newalls Insulation Co. Tarmac, etc.: Constable Hart & Co. Shutters: Shutter Contractors Ltd. Blackouts: London Blinds Ltd.

Hospital near Edinburgh. Architect: John Holt. General contractors: W. & J. R. Watson. Sub-contractors: Bricks: Scottish Dunbrik Ltd. Stone: Blaxter Quarries. Special roofings: J. A. King & Co. Roofing felt: Wm. Briggs & Sons. Tiles: Toffolo Jackson & Co. Slate: Broughton Moor Green Slate Quarries Ltd.; G. S. Ormerod Ltd. Lead-core plywood partitions: Bakers of Wycombe Ltd. Glass domelights and lead glass: James Thow Ltd. Wood block flooring: A. M. MacDougall & Son. Glass domelights and lead glass: T. & W. Ide Ltd. Copper-smith work: Archibald McMillan & Co. Patent flooring: Concrete Ltd. Smith work and balustrading: H. Gibson's Heirs. Ventilation and boilers: Brightside Foundry & Engineering Co. Incinerators: Wm. Sugg & Co. Gas fitting, mains: Scottish Gas Board. Electric wiring: James Kilpatrick & Sons. Electric light fixtures: Merchant Adventurers Ltd. Metal staircases: MacKenzie & Moneur Ltd. Casements: Frederick Braby & Co. Sanitary fittings: Shanks & Co.; J. & R. Howie Ltd. X-ray protective doors: Adrian Stokes Ltd. Oxygen and nitrous oxide installation: The British

Oxygen Co. Plaster: D. & J. Bathwick Ltd. Textiles and Sunway beds: Findlater Smith Ltd. Wallpaper: T. W. Scott Ltd. Floor finishes: Korkoid Decorative Floors Ltd. Light-proof blinds: Douglas & Braden Ltd. Lifts: Pickering's Ltd. Plant: The Walpamur Co. Fire equipment: Pyrene Co.

Directors' Dining Room at Leeds. Architect: Derek Walker. Shopfitters: A. C. Fuller and H. Briggs. Metalwork, engineering and ventilation: J. Stephenson and J. Edwards. Photomural: J. Shaw. Furniture: Wolfson, Leeds; Woollands, Knightsbridge.

Shop in Liverpool. Architects: Westwood, Sons & Harrison. General contractor for building, also false ceilings and decoration: George Platt & Sons. Shopfitters: Harris & Sheldon. Marble and granite: John Stubbs. Special light fittings: Venreco Ltd. Korkoid: Korkoid Decorative Floors Ltd. Chairs and carpets: Heal's Contracts Ltd. Illuminated signs: Pearce Signs Ltd. Cash installation: The Lamson Engineering Co. Ironmongery: Messrs Yannedis & Co.

Shop in Nottingham. Architects: Westwood, Sons & Harrison. Builders: John Cawley Ltd. Shopfitters: Harris & Sheldon Ltd. Carpets: Heal's Contracts Ltd. Cash system: Lamson Engineering Co. Flooring: Korkoid Decorative Floors. Ironmongery: Yannedis & Co. Chairs: Heal's Contracts Ltd.; Hill & Co. (Tub). Lift: W. J. Furse & Co. Light fittings: Troughton & Young (Lighting) Ltd.; Venreco Ltd. Stone: Hornton Quarries Ltd. Terrazzo: Malacarp Terrazzo Co. Signs: Pearce Signs Ltd.



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